

# **EXHIBIT B39**

Patricia G. Moorman, M.S.P.H., Ph.D.

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IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEW JERSEY

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IN RE: JOHNSON & JOHNSON

TALCUM POWDER PRODUCTS MDL No.:  
MARKETING, SALES PRACTICES,  
AND PRODUCTS LIABILITY 16-2738 (FLW)(LHG)  
LITIGATION

THIS DOCUMENT RELATES TO  
ALL CASES

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VIDEOTAPED DEPOSITION OF  
PATRICIA G. MOORMAN, M.S.P.H., PH.D.

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FRIDAY, JANUARY 25, 2019

9:04 A.M.

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Taken by the Defendants  
at Cambria Hotel & Suites Durham  
2306 Elba Street  
Durham, North Carolina 27705

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Reported by Sophie Brock, RPR, RMR, RDR, CRR

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<p>1 INDEX OF EXHIBITS (Continued)</p> <p>2 NUMBER DESCRIPTION MARKED</p> <p>3 Exhibit 19 National Cancer Institute PDQ . . . 151 titled "Ovarian, Fallopian Tube, and Primary Peritoneal Cancer Prevention (PDQ®) - Health Professional Version"</p> <p>4 Exhibit 20 Epidemiology Article titled . . . 165 "Perineal Talc Use and Ovarian Cancer, A Systematic Review and Meta-Analysis," by Ross Penninkilampi, et al.</p> <p>5 Exhibit 21 Review Article titled "Genital . . . 169 use of talc and risk of ovarian cancer: a meta-analysis," by Wera Berge, et al.</p> <p>6 Exhibit 22 Research Report titled "Perineal . . . 173 use of talc and risk of ovarian cancer," by H. Langseth, et al.</p> <p>7 Exhibit 23 Anticancer Research Article . . . 175 titled "Perineal Application of Cosmetic Talc and Risk of Invasive Epithelial Ovarian Cancer: A Meta-analysis of 11,933 Subjects from Sixteen Observational Studies," by Michael Huncharek, et al.</p> <p>8 Exhibit 24 AACR Journal Research Article . . . 180 titled "Genital Powder Use and Risk of Ovarian Cancer: A Pooled Analysis of 8,525 Cases and 9,859 Controls," by Kathryn L. Terry, et al.</p> <p>9 Exhibit 25 JNCI Article titled "Perineal . . . 202 Powder Use and Risk of Ovarian Cancer," by Serena C. Houghton, et al.</p>	<p>1 P R O C E E D I N G S</p> <p>2 THE VIDEOGRAPHER: We are now on record. Today's date is January 25th, 2019, and the time is approximately 9:04 a.m. This is the videotaped deposition of Dr. Patricia Moorman.</p> <p>3 Could counsel please now introduce themselves for the record, and then our court reporter will swear in the witness.</p> <p>4 MR. JAMES: Scott James for the Johnson &amp; Johnson Defendants.</p> <p>5 MS. BRENNAN: Jessica Brennan for the Johnson &amp; Johnson Defendants.</p> <p>6 MS. FOSTER: Jennifer Foster for Imerys Talc America, Inc.</p> <p>7 MR. DONATH: Jonathan Donath for Imerys Talc, Inc.</p> <p>8 MS. APPEL: Renée Appel, here for Personal Care Products Council.</p> <p>9 MR. MIZGALA: James Mizgala for PTI.</p> <p>10 MR. FINDEIS: Alastair Findeis, Plaintiffs' Steering Committee.</p> <p>11 MR. FARIES: Steve Faries for the Plaintiffs.</p> <p>12 MS. PARFITT: Michelle Parfitt for the Plaintiffs.</p>
<p>1 INDEX OF EXHIBITS (Continued)</p> <p>2 NUMBER DESCRIPTION MARKED</p> <p>3 Exhibit 26 Journal of the National Cancer . . . 205 Institute Article, titled "Prospective Study of Talc Use and Ovarian Cancer," by Dorota M. Gertig, et al.</p> <p>4 Exhibit 27 PLOS ONE Research Article titled . . . 227 "Comparison of Estimates between Cohort and Case-Control Studies in Meta-Analyses of Therapeutic Interventions: A Meta-Epidemiological Study," by Amy Lanza, et al.</p> <p>5 Exhibit 28 AACR Journal Research Article . . . 234 titled "Association between Body Powder Use and Ovarian Cancer: The African American Cancer Epidemiology Study (AA CES)," by Joellen M. Schildkraut, et al.</p> <p>6 Exhibit 29 AACR Journal Article titled "Body . . . 237 Powder and Ovarian Cancer Risk - What is the Role of Recall Bias?" by Britton Trabert</p> <p>7 Exhibit 30 International Journal of Cancer . . . 273 Article titled "Perineal Talc Exposure and Epithelial Ovarian Cancer Risk in the Central Valley of California," by Paul K. Mills, et al.</p> <p>8 Exhibit 31 Paper titled "Systematic Review . . . 307 and Meta-Analysis of the Association between Perineal Use of Talc and Risk of Ovarian Cancer," by Mohamed Kadry Taher, et al.</p>	<p>1 Whereupon,</p> <p>2 PATRICIA G. MOORMAN, M.S.P.H., PH.D. having first been duly sworn/affirmed, was examined and testified as follows:</p> <p>3 EXAMINATION BY COUNSEL FOR THE JOHNSON &amp; JOHNSON DEFENDANTS</p> <p>4 BY MR. JAMES:</p> <p>5 Q. Good morning, Dr. Moorman.</p> <p>6 A. Good morning.</p> <p>7 Q. My name is Scott James. We've had the pleasure of meeting before the deposition. I'm counsel for the J&amp;J Defendants in this matter.</p> <p>8 Do you understand that?</p> <p>9 A. I do.</p> <p>10 Q. Super. Could you state your name for the record, please.</p> <p>11 A. My name is Patricia Moorman.</p> <p>12 Q. And you have been deposed before in a talc ovarian cancer case; correct?</p> <p>13 A. Yes, I have.</p> <p>14 Q. And you've testified on behalf of the Plaintiffs in that case; correct?</p> <p>15 A. Yes, I did.</p> <p>16 Q. And the allegations in that case were that cosmetic talc powders cause ovarian cancer; correct?</p>

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<p>1       A. That's correct. 2       Q. You were deposed in the Ingham case. 3           Do you recall the name of the case? 4       A. Yes, I do. 5       Q. And you were last deposed in that case in 6           March of 2018. Do you recall that? 7       A. Yes, I do. 8       Q. Has there been any change in your employment 9           status since your March 2018 deposition? 10      A. I am still a professor at Duke University, 11           yes. 12      Q. Has there been any change in your work or 13           teaching activities since your deposition? 14      A. Yes. 15      Q. What are those changes? 16      A. I am in a preretirement transition, and so 17           I have been reducing my effort. And so I do not -- 18           I'm not doing as much teaching as I was a year ago. 19      Q. Other than that fairly significant change, 20           are there any other changes in your teaching or work 21           activities since the deposition? 22      A. No. 23      Q. Have you done any new expert witness work 24           since the last deposition other than the talc MDL that 25           we're here about today?</p>	<p>1       A. I'm afraid I'm a little bit unclear about the 2           particular cases. I understand that this is an MDL 3           case. I have been in touch with attorneys about 4           various cases since, you know, 2016, but I'm a little 5           bit unclear about the distinctions. 6       Q. In preparing for today's deposition for the 7           talc MDL, did you meet with counsel? 8       A. Yes. 9       Q. Okay. And who did you meet with? 10      A. I have met with the individuals here, 11           Michelle Parfitt, Steve Faries, Alastair, and -- I'm 12           blacking on his last name all of a sudden -- and Jeff 13           Gibson. 14      Q. Are those the only attorneys that you've met 15           with regard to your deposition today? 16      A. Yes. 17      Q. In preparing your MDL talc report, are there 18           any other attorneys that you worked with other than 19           the ones that you just mentioned with regard to the 20           MDL? 21      MS. PARFITT: Objection. Form. 22      You may answer. 23      I just wanted to make sure that -- I believe 24           he's asking the names of people, not the 25           communications.</p>
<p>1       A. No, I have not. 2       Q. And you understand that we are taking your 3           deposition today in the talc MDL; correct? 4       A. Yes. 5       Q. Who first contacted you about serving as an 6           expert in the talc MDL? 7       A. It was -- let's see -- Jeff Gibson was the 8           first person who contacted me about talc litigation. 9       Q. When you say "talc litigation," are you 10           referring to the Ingham case? 11      A. I'm afraid that I'm a little unclear on -- 12           you know, there are multiple attorneys, multiple 13           cases, and I don't know who was the Defendant and when 14           he first approached me. 15      Q. Understood. 16      A. Or the Plaintiff, rather. I'm sorry. 17      Q. Do you recall the time frame that Mr. Gibson 18           contacted you? 19      A. It was in summer of 2016. 20      Q. Are you retained in any talc cases other than 21           the talc MDL and the Ingham case? 22      A. Not to my knowledge, no. 23      Q. Sitting here today, do you have the ability 24           to distinguish as to whether any attorney contacted 25           you specifically about the talc MDL?</p>	<p>1       MR. JAMES: Yes. 2       THE WITNESS: Okay. I believe that on 3           teleconferences, Chris Tisi was also on one of the -- 4           at least one of the teleconferences, probably more 5           than one. 6      BY MR. JAMES: 7       Q. Was Mr. Tisi involved in teleconferences 8           pertaining to the report that you authored? 9       A. Yes. 10      Q. And, again, I'm not asking you about the 11           substance of the communications, just the 12           identification of the attorneys that you've worked 13           with. Okay? 14      A. Okay. 15      Q. Are there any other attorneys that you've 16           worked with on the MDL report? 17      A. None that I recall. 18      Q. Are you working with any of the counsel that 19           you just identified on any other litigation or 20           matters? 21      A. No, I am not. 22      Q. Okay. Today at the deposition, we'll follow 23           the same ground rules as the Ingham deposition. So 24           I know that you're familiar with them, but as a 25           reminder, my questions will be verbal and I ask that</p>

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<p>1 your answers be verbal as well. Okay?</p> <p>2 A. Okay.</p> <p>3 Q. And that's so the court reporter can take</p> <p>4 down what you're saying and can take down what I'm</p> <p>5 saying as well.</p> <p>6       Also, Michelle has told you this, but</p> <p>7 anytime you need a break, just let us know and we'll</p> <p>8 be happy to accommodate you. Okay?</p> <p>9 A. Okay.</p> <p>10 Q. And if you have any -- if you have any -- let</p> <p>11 me rephrase that.</p> <p>12       If you don't understand any questions that</p> <p>13 I ask you, please ask me to rephrase. Okay?</p> <p>14 A. Okay.</p> <p>15 Q. Great.</p> <p>16       What are you charging Plaintiffs' counsels</p> <p>17 in the MDL?</p> <p>18 A. My rate is \$400 per hour.</p> <p>19 Q. How much have you invoiced in the MDL to</p> <p>20 date?</p> <p>21 A. For the MDL, I believe it is 21,000.</p> <p>22 Q. Okay. And prior -- sorry. Did I cut you</p> <p>23 off?</p> <p>24 A. No, you did not.</p> <p>25 Q. This morning, your counsel handed me a copy</p>	<p>1 MS. PARFITT: And I've just got to add</p> <p>2 some clarity to that.</p> <p>3 MR. JAMES: Sure.</p> <p>4 MS. PARFITT: There might be some</p> <p>5 overlap. I think that's the problem. There might</p> <p>6 just be some overlap.</p> <p>7 BY MR. JAMES:</p> <p>8 Q. Are there any invoices that you have prepared</p> <p>9 for your work in the talc litigation that you have not</p> <p>10 produced to us today in the MDL, be it Exhibit 1 or in</p> <p>11 your work in Ingham?</p> <p>12 A. These are the only invoices related to the</p> <p>13 talc litigation, period.</p> <p>14 Q. And do you have an estimate of -- when you</p> <p>15 say that these are the only invoices for the talc</p> <p>16 litigation -- and if these questions continue to be</p> <p>17 confusing, let me know -- but are there other invoices</p> <p>18 that you submitted in the Ingham case that are not</p> <p>19 part of Exhibit 1?</p> <p>20 A. No. These are all the invoices submitted.</p> <p>21 Q. We got there finally. Sorry about that.</p> <p>22 A. Okay.</p> <p>23 Q. Have you discussed your work in this</p> <p>24 litigation with any other experts who are working on</p> <p>25 behalf of the Plaintiffs?</p>
<p>1 of the invoices that you furnished in the MDL, and I'm</p> <p>2 going to mark this as Exhibit No. 1.</p> <p>3 (Exhibit No. 1 was marked for identification.)</p> <p>4 BY MR. JAMES:</p> <p>5 Q. Exhibit No. 1 is containing four invoices.</p> <p>6 I'm going to hand those to you and ask you to confirm</p> <p>7 that those are the invoices that you have prepared for</p> <p>8 your work in the MDL.</p> <p>9 A. There are some for -- that work that was done</p> <p>10 with the Ingham case, and my understanding, that's not</p> <p>11 part of the MDL.</p> <p>12 Q. That's fair. Yes.</p> <p>13 A. Okay.</p> <p>14 Q. So are the invoices that I've handed you as</p> <p>15 part of Exhibit 1, are those the invoices related to</p> <p>16 the work that you've done on the MDL?</p> <p>17 A. I -- I'm sorry. I'm -- I'm trying to answer</p> <p>18 your question, but the ones for prior -- other than</p> <p>19 the Ashcraft &amp; Gerel, my understanding was that these</p> <p>20 were for, like, the Ingham case and the state cases,</p> <p>21 not the MDL.</p> <p>22 Q. Okay. Let me ask it this way: Are these the</p> <p>23 invoices that you've submitted to Michelle Parfitt?</p> <p>24 A. They've been submitted to the people noted on</p> <p>25 there. So --</p>	<p>1 A. No. To my knowledge, I have not.</p> <p>2 Q. Have you had any emails or other</p> <p>3 communications with Plaintiffs' experts in the talc</p> <p>4 litigation?</p> <p>5 A. No, I have not.</p> <p>6 Q. And you recall giving your testimony in the</p> <p>7 Ingham case in March 2018; correct?</p> <p>8 A. Yes, I do.</p> <p>9 Q. After that testimony that you provided, you</p> <p>10 also had an opportunity to review that testimony;</p> <p>11 correct?</p> <p>12 A. I did.</p> <p>13 Q. And do you recall preparing a single</p> <p>14 correction to the Ingham transcript?</p> <p>15 A. Yes.</p> <p>16 Q. And so I have with me a copy of what we refer</p> <p>17 to as an errata sheet, which is the correction sheet</p> <p>18 that you signed in Ingham. I'm going to mark that as</p> <p>19 Exhibit No. 2. Okay?</p> <p>20 (Exhibit No. 2 was marked for identification.)</p> <p>21 BY MR. JAMES:</p> <p>22 Q. And the way that we're configured, there's</p> <p>23 some space between me and your counsel. So when</p> <p>24 I have exhibits, as I will throughout the day --</p> <p>25 we may have to figure out how to approach this, but I</p>

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<p>1 may hand them to you and ask that you hand them over 2 since we're all mixed up. 3       Okay. And do you recognize your handwriting 4 on that Exhibit? 5       A. I do. 6       Q. Does that reflect the correction that you 7 made to your testimony? 8       A. Yes, it does. 9       Q. And if you flip over to the other side of 10 Exhibit 2, does that contain your signature? 11      A. Yes, it does. 12      Q. By signing that errata sheet, you confirmed 13 that the testimony that you gave in Ingham was true 14 and correct; correct? 15      A. Yes. 16      Q. Do you still stand behind the testimony that 17 you provided in Ingham today? 18      A. Yes, I do. 19      Q. Subject to the one correction that you made; 20 correct? 21      A. Yes, I do. 22      Q. Sitting here today, do you believe there are 23 any other changes or corrections that you need to make 24 to your testimony in Ingham? 25      A. I can't think of any, no.</p>	<p>1       A. I am. 2       Q. Okay. So for purposes of the record, this 3 morning, before the deposition, your counsel handed me 4 a copy of your updated CV. 5       Is that what you're looking at right now? 6       A. Yes, it is. 7       Q. Okay. I'm going to mark a copy of that as 8 Exhibit No. 3. 9       (Exhibit No. 3 was marked for identification.) 10      MR. JAMES: Michelle, you have a copy, 11 I presume? 12      MS. PARFITT: Actually, I think I gave 13 them all to you. Sorry. 14      MR. JAMES: Again, apologies for having 15 to handle it that way. 16      THE WITNESS: Oh, I'm sorry. 17      MS. PARFITT: Thank you. 18      THE WITNESS: Okay. The article that 19 I was referring to is -- the first author is Park. 20 The title of the article is "Benign gynecologic 21 conditions are associated with ovarian cancer risk in 22 African-American women: A case-control study." 23      And I was a coauthor on that paper, and talc 24 was included as a potential confounder. 25</p>
<p>1       Q. Did you review your Ingham deposition in 2 preparation for today's deposition? 3       A. I did within the last few weeks, yes. 4       Q. And so when you've reread the transcript in 5 the last few weeks, did you see anything in that 6 transcript that you wanted to correct? 7       A. No. 8       Q. Since your Ingham deposition in March of 9 2018, have you authored any publications or articles 10 pertaining to talc, asbestos, or ovarian cancer risk 11 factors? 12      A. Yes, I have. 13      Q. Okay. And let's break up that, then. 14      Have you authored any articles pertaining to 15 talc? 16      A. I have not authored any articles that 17 directly address talc as the main focus of the paper. 18 Talc has been mentioned in at least one paper as a 19 potential confounder. 20      Q. And what was the name of that article, 21 please. 22      A. If you'll give me just a moment, let me 23 look -- 24      Q. Dr. Moorman, are you looking at a copy of 25 your CV?</p>	<p>1       BY MR. JAMES: 2       Q. And, for the record, can you tell us the 3 number of the item you're looking at on your CV? 4       A. Okay. On page 14, it is Article No. 120. 5       Q. And in that paper, Dr. Moorman, did you say 6 that you described talc as a potential confounder? 7       A. Yes. 8       Q. In that paper, did you include a disclosure 9 of your involvement in this talc litigation as an 10 expert for the Plaintiffs? 11      A. I disclosed it -- actually, I had a 12 discussion with the senior author on this paper, who's 13 Michele Cote, and disclosed what I was doing. And she 14 was -- she actually said she had also done some work 15 related to talc and ovarian cancer and she was going 16 to check with the editor and see if it required a 17 disclosure. And so there was no disclosure. So 18 apparently the editor did not feel it was warranted. 19      Q. So the article, as published, does not 20 contain a disclosure of your involvement in the 21 litigation; correct? 22      A. That is correct. 23      Q. Did you review the disclosure requirements of 24 the journal in which the article was published? 25      A. I can't remember if I specifically looked at</p>

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<p>1 that journal's requirements. I don't recall if I did 2 or not. 3 Q. Do you believe that it is important -- for an 4 author who's working on an article for a publication 5 pertaining to an issue that she's testifying about in 6 litigation, do you believe it's important to disclose 7 that to the reader of the article? 8 A. I think that it is important to disclose it 9 in conjunction with the journal's policies, as I 10 described. I did disclose it to the corresponding 11 author, who said she was going to discuss it with the 12 editor. So I think that I did what was appropriate. 13 Q. Did you communicate your involvement in the 14 litigation to anyone with the journal? 15 A. I did not. It is typical that the 16 communication with the journal is through the 17 corresponding author. 18 Q. Have you attempted to amend any disclosures 19 in your prior papers since the last deposition? 20 MS. PARFITT: Objection. Form. 21 THE WITNESS: I do -- 22 MR. JAMES: You're looking at your 23 counsel. Michelle can correct me if I'm wrong. She's 24 allowed to make the objections. And once she does, 25 unless she tells you not to answer, you may answer.</p>	<p>1 Q. Did they communicate with you about the 2 disclosure in a written format? 3 A. It was an email communication. 4 Q. Was it a single email, or was it multiple 5 emails? 6 A. As I recall, I sent an email to the editor 7 disclosing the situation, and he -- I think he 8 responded that, yes, it should be disclosed. And then 9 I believe there was another email from -- I don't 10 know -- an editorial assistant or someone asking 11 specifically what was the -- what was the wording of 12 the disclosure that I wanted to make, and I gave them 13 that. 14 So it was, you know, two or three emails, 15 but... 16 Q. Do you still have that email traffic in your 17 possession? 18 A. Probably. 19 Q. It's on your computer? 20 A. I would think so. 21 Q. Okay. Could you ensure that you preserve 22 that email traffic for us, please. 23 A. Yes. 24 MR. JAMES: And then, Michelle, we will 25 request a copy of the email traffic.</p>
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<p>1 MS. PARFITT: That's fine. 2 THE WITNESS: Okay. Yes. In my last 3 deposition, there was an article that I was one of 40 4 authors that looked at about 20 different risk factors 5 for ovarian cancer. I acknowledged in my deposition 6 that it was an oversight. In my career, you know, 7 spanning 25 years, I've never had to make disclosures 8 about potential conflicts of interest. I acknowledged 9 that it was an oversight on my part. When it was 10 brought to my attention, I contacted the journal, and 11 they said, "Okay. What's your disclosure?" And 12 I disclosed it. 13 BY MR. JAMES: 14 Q. So just to be clear, this was after the 15 deposition; correct? 16 A. It was. 17 Q. Is this the Peres paper? 18 A. Yes. 19 Q. Did they respond to you in any way about the 20 reported conflict? 21 A. The editor just said, "Okay. What is your 22 disclosure?" 23 And I gave it to him. And I believe that 24 they subsequently published a correction to the 25 article.</p>	<p>1 MS. PARFITT: We'll certainly take it 2 under advisement, sure. 3 BY MR. JAMES: 4 Q. Do you have any similar written 5 communications about the disclosure with the paper 6 that we just discussed, the Park paper? 7 A. No, I do not. That was a telephone 8 conference. 9 Q. Other than the Park article that you just 10 identified, have you authored any other articles since 11 your last deposition concerning talc, asbestos, or 12 risk factors for ovarian cancer? 13 A. As you can see on my CV, since the last 14 deposition, Article No. 121 is a paper on effect of 15 cultural, folk, and religious beliefs on delays in 16 diagnosis of ovarian cancer. I was first author on 17 that paper. 18 Article 119, first author Anderson, was 19 looking at individual, social, and societal correlates 20 of health-related quality of life among 21 African-American survivors of ovarian cancer. 22 And I was a coauthor on a paper by Mills 23 that was looking at immune regulatory molecular 24 expression. 25 Q. Since your Ingham deposition, have you</p>

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<p>1 authored any articles that pertain to talc or asbestos 2 other than the Park article?</p> <p>3 A. No.</p> <p>4 Q. Are you currently working on any articles or 5 publications that pertain to the issues addressed in 6 your expert report?</p> <p>7 A. I am a coauthor on a paper that is in 8 preparation that is describing the OCWAA Consortium, 9 which stands for Ovarian Cancer in Women of African 10 Ancestry. And this is a relatively newly formed 11 consortium, and it's describing the overall structure 12 of the consortium and some of the factors that we 13 intend to consider. And in the draft of the paper, 14 talc is included along with a long list of other risk 15 factors that we will be considering.</p> <p>16 Q. Is that paper in draft form?</p> <p>17 A. It is in draft form. It's being -- yeah, it 18 has not been submitted yet.</p> <p>19 Q. So it has not been submitted for peer review?</p> <p>20 A. No, it has not.</p> <p>21 Q. Is talc mentioned in the context of a 22 potential confounder, like the Park paper?</p> <p>23 MS. PARFITT: Object to form.</p> <p>24 THE WITNESS: Talc is mentioned in that 25 paper as one of many ovarian cancer risk factors that</p>	<p>1 communications or written paperwork about your 2 conflict for that paper? Your litigation disclosure 3 for that paper? Is there anything in writing about 4 that to anyone or the journal itself, or a journal?</p> <p>5 A. At this point, no, because it is still in 6 draft form. It's not ready to be submitted.</p> <p>7 Q. Okay. Other than the papers we have 8 discussed this morning, are there any other papers 9 that you -- that are works in progress that discuss 10 talc or asbestos that you're working on?</p> <p>11 A. Another paper that is in progress is looking 12 at infertility as a risk factor for ovarian cancer. 13 And talc is, again, considered as a potential 14 confounder of that association.</p> <p>15 So, again, draft form. It hasn't been 16 disclosed yet because it's not at the point where one 17 would disclose that.</p> <p>18 Q. Okay. And you answered my next question, and 19 that's fine. So thank you.</p> <p>20 Can you identify the coauthors on the paper 21 that you've just -- that you just mentioned, the 22 infertility paper?</p> <p>23 A. The infertility paper? Okay. This was work 24 that was done with a medical student, Tolu Teniola is 25 the medical student that I was working with. And then</p>
<p>1 we hope to examine in this -- within this consortium. 2 BY MR. JAMES:</p> <p>3 Q. So one of the purposes of that paper, as 4 you've described, is that you will be looking at the 5 association between talc and ovarian cancer; is that 6 correct?</p> <p>7 MS. PARFITT: Objection. Form.</p> <p>8 THE WITNESS: It is -- the purpose of 9 the paper is to describe the consortium. So there is 10 relatively little data about risk factors for ovarian 11 cancer among African -- African-American women, or 12 women of African ancestry. And so the purpose of the 13 paper is not focused just on talc, but it is 14 describing how the consortium hopes to compare risk 15 factors for ovarian cancer between African-American 16 and white women. So talc is among a long list of risk 17 factors that will be considered as we progress with 18 this consortium.</p> <p>19 BY MR. JAMES:</p> <p>20 Q. Have you yet disclosed your involvement in 21 the litigation with respect to that paper?</p> <p>22 A. The -- I will disclose it when the paper will 23 be submitted, which is the typical time when such a 24 disclosure would be made.</p> <p>25 Q. Have you engaged in any written</p>	<p>1 all of the AACES -- this is, again, African American 2 Cancer Epidemiology Study, which is an ovarian cancer 3 study that I've worked on for about the last nine or 4 ten years, and so all of the collaborators on that 5 study.</p> <p>6 And when you look at the CV, the papers that 7 come from AACES, it's Dr. Schildkraut, Dr. Bondy, 8 Dr. Cote. It's a large multicenter study; there are 9 many coauthors, and so they would all be included.</p> <p>10 Q. And with respect to the other 11 work-in-progress paper that you have identified, can 12 you identify the coauthors on that paper.</p> <p>13 MS. PARFITT: Are you speaking of the 14 infertility paper?</p> <p>15 MR. JAMES: The first question was 16 about the infertility. So now we're back to the first 17 work-in-progress paper that you identified.</p> <p>18 THE WITNESS: Okay. So the study 19 describing the OCWAA Consortium, is that what you're 20 asking me about?</p> <p>21 BY MR. JAMES:</p> <p>22 Q. Yes, Doctor. Thank you for clearing that up.</p> <p>23 A. Okay. So it includes -- again, this is a 24 multicenter study -- quite a few coauthors. They 25 would include Dr. Schildkraut, Lynn Rosenberg, Traci</p>

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<p>1      Bethea, Wendy Setiawan. 2      Again, it's a large consortium with a lot of 3      coauthors. There would be probably at least a dozen, 4      probably more. 5      Q. For both work-in-progress papers, are you 6      aware of whether any of those coauthors are experts 7      for the Plaintiffs in the talc litigation? 8      A. I am not aware of -- if any of them are. 9      Q. Have you -- are there any other works in 10     progress that pertain to talc or asbestos that you're 11     working on? 12     A. No, I do not believe so. 13     Q. Have you submitted the substance of your 14     opinions in the MDL report to anyone for peer review? 15     A. No, I have not. 16     Q. Have you engaged in any internet postings, 17     blogs, chatroom postings concerning your opinions in 18     this litigation? 19     A. No, I have not. 20     Q. Have you given any presentations, speeches, 21     or lectures concerning talc or asbestos or ovarian 22     cancer risk factors since your March 2018 deposition? 23     A. No, I have not. 24     Q. Have you given any interviews, public 25     statements, or other public speaking engagements</p>	<p>1      communications with your professional colleagues about 2      your opinions? 3      A. No, I have not. 4      Q. And when I say "about your opinions," I mean 5      about your opinions in this litigation. 6      Is there any written communications, emails, 7      or other writings expressing your opinions in this 8      litigation to your professional colleagues? 9      A. No, I do not believe so. 10     Q. Have you had any discussions, since your 11     Ingham deposition, with any healthcare professionals 12     who treat ovarian cancer patients about your 13     litigation opinions? 14     A. No, I have not. 15     Q. Have you prepared any letters to the editor 16     about any of the publications that you cite in your 17     MDL report? 18     A. No, I have not. 19     Q. Okay. I am going to hand you a copy of the 20     deposition notice for this case. I'm going to mark 21     that as Exhibit No. 4. 22     (Exhibit No. 4 was marked for identification.) 23     MR. JAMES: Michelle, do you need a 24     copy? 25     MS. PARFITT: I believe I might have</p>
<p>1      concerning talc, asbestos, or ovarian cancer risk 2      factors since your Ingham deposition? 3      A. No, I have not. 4      Q. Since your Ingham deposition -- and I'm 5      structuring my questions sometimes this way in hopes 6      of expediting. Okay? 7      So since your Ingham deposition, have you 8      discussed your opinions in this litigation with any of 9      your professional colleagues? 10     A. To some extent, yes. 11     Q. Okay. And can you tell me who that is? 12     A. I already mentioned Dr. Cote, Michele Cote, 13     described the work that I was doing. 14     I have mentioned some of the work that I'm 15     doing to some of my colleagues within my department, 16     Dr. Truls Ostbye for one, Dr. Kat Pollak for another. 17     Q. And when you say that you've mentioned your 18     litigation work with your department colleagues, what 19     have you told them? 20     A. I have basically described that I have been 21     working as an expert witness in this -- in this case, 22     and expressing my opinion, you know, that -- working 23     for the Plaintiffs and my opinion that talc is a cause 24     of ovarian cancer. 25     Q. And have you engaged in any written</p>	<p>1      given you mine. If you would be so kind, I appreciate 2      that. 3      MR. JAMES: Dr. Moorman. 4      THE WITNESS: Thank you. 5      BY MR. JAMES: 6      Q. Okay. Dr. Moorman, have you seen the 7      deposition notice that I just handed you before? 8      A. Yes, I have. 9      Q. Okay. And you understand from your prior 10     deposition, that this is a document that formally 11     notices the time and place and why we're here; right? 12     A. Yes. 13     Q. And if you turn to page 3 of the notice, you 14     see that there is a section for definitions, and then 15     it follows with a list of document requests; correct? 16     A. Yes. 17     Q. Okay. And your counsel this morning has 18     produced to me a copy of your invoices, a copy of your 19     updated CV, an additional-materials-considered list, 20     and has also indicated that the references to your MDL 21     report are going to be available to us on a thumb 22     drive. 23     Other than those materials that I just 24     described, are there any other materials that you've 25     brought with you today that respond to this deposition</p>

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<p>1 notice?</p> <p>2 A. No, there are no other documents.</p> <p>3 MR. JAMES: Michelle, is there anything</p> <p>4 else that you brought with you that is responsive to</p> <p>5 the deposition notice?</p> <p>6 MS. PARFITT: You know, the only thing</p> <p>7 that might -- I believe you asked this, Mr. James --</p> <p>8 any notes that she might have taken.</p> <p>9 MR. JAMES: Yes, I was going to ask</p> <p>10 that.</p> <p>11 MS. PARFITT: So why don't we just wait</p> <p>12 for that. I do have something for that.</p> <p>13 MR. JAMES: Okay. Fair enough.</p> <p>14 BY MR. JAMES:</p> <p>15 Q. Dr. Moorman, did you provide to your counsel</p> <p>16 any working copies of materials that you've reviewed</p> <p>17 for purposes of preparing your report or preparing for</p> <p>18 today's deposition?</p> <p>19 A. Can you tell me what you mean by "working</p> <p>20 copies"?</p> <p>21 Q. Sure. Have you made any notes on any of the</p> <p>22 materials that you reviewed for purposes of your work</p> <p>23 on the MDL?</p> <p>24 A. Yes. In this notebook here, there are</p> <p>25 articles. Most of them are the epidemiologic studies.</p>	<p>1 in your possession that are not contained in this</p> <p>2 binder?</p> <p>3 A. No. It's there and the report. That's it.</p> <p>4 MS. PARFITT: Mr. James, if we could,</p> <p>5 do you mind, could she have that back? In the event</p> <p>6 you start to ask her questions about it, she may want</p> <p>7 hers instead, and then we'll make sure you get it.</p> <p>8 Thank you.</p> <p>9 BY MR. JAMES:</p> <p>10 Q. And before we commenced this morning, your</p> <p>11 counsel, Ms. Parfitt, handed me a copy of the</p> <p>12 objections that they have lodged -- that the</p> <p>13 Plaintiffs have lodged to the deposition.</p> <p>14 MR. JAMES: Ms. Parfitt, do you want to</p> <p>15 mention that on the record?</p> <p>16 MS. PARFITT: Yes. If we could kindly</p> <p>17 have marked as Exhibit No. -- I believe it's 6 now.</p> <p>18 This is the Plaintiffs Steering Committee's Response</p> <p>19 and Objections to the Oral and Video Deposition of</p> <p>20 Dr. Patricia Moorman.</p> <p>21 Thank you.</p> <p>22 (Exhibit No. 6 was marked for identification.)</p> <p>23 BY MR. JAMES:</p> <p>24 Q. Dr. Moorman, I'm just going to hand you a</p> <p>25 copy of this because it looks like you're keeping a</p>
<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>

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<p>1           MS. PARFITT: Thank you. That would be 2 great. 3           MR. FARIES: I'll be the runner on this 4 one. 5           MR. JAMES: Thank you. 6 BY MR. JAMES: 7           Q. Did you review your report prior to -- in 8 preparation -- let me start that over. 9           Did you review your report in preparation 10 for today's deposition? 11          A. Yes, I did. 12          Q. Are there any changes that you want to make 13 to the report today? 14          A. No, there are not. 15          Q. Did you write the report? 16          A. Yes, I did. 17          Q. Okay. Are all parts of the report in your 18 wording? 19          A. Yes. 20          Q. Okay. If you can turn with me, Dr. Moorman, 21 to page 41. And you see here that there is a list of 22 references; correct? 23          A. Yes. 24          Q. Okay. And if you also turn to page 50, do 25 you see that there's a separate list that begins on</p>	<p>1 transcript for Curtis Omiencinski, I do not recall 2 reviewing that at all. It might have been provided to 3 me, but I don't recall reviewing it. 4           Q. Is there any way sitting here today that we 5 can efficiently identify which items on the additional 6 materials list that you have reviewed and which you 7 haven't? 8          A. I don't know what you mean by "efficiently." 9 You know, it's kind of hard to recall exactly. You 10 know, there are lots of articles here. That might 11 have been provided to me. I don't know how I could go 12 through it in just a few minutes to say did I look at 13 it or not. It would just take some time. 14          Q. Did Plaintiffs' counsel provide you all the 15 items on this list, the additional materials list? 16          A. No, I don't believe so. I mean, some of the 17 articles I've had -- like, again, some of them just 18 kind of jump out at me, like the reference 31, 19 Fathalla, "Incessant ovulation and ovarian cancer, a 20 hypothesis," that is an article that I have probably 21 referred to dozens of times. 22          Q. So the additional materials list contains a 23 mixture of items that you had on your own and items 24 that were provided to you; is that fair? 25          A. That is correct.</p>
<p>1           page 50, halfway down, that's titled "Additional 2 materials and data considered"?" 3          A. I'm sorry -- 4          Q. On page 50. 5          A. -- let me get to the right page. 6          Yes. 7          Q. Can you explain to me the difference between 8 the reference list and the additional materials and 9 data considered list? 10         A. Okay. The reference list are the references 11 to support the opinions and the statements in the 12 report that I wrote. There are some other materials 13 that I was provided, might have read, but they just 14 did not meet the level of actually needing to be 15 referenced in the report to support a certain 16 statement. 17         Some of these I might have read in more 18 detail than others, but I feel like the reference list 19 are the ones that actually supported the statements 20 that I made in my report. 21         Q. As described by you just now, are there items 22 on the additional materials and data considered list 23 that you have not reviewed at all? 24         A. There are -- along the way, there seem to be 25 some -- like, for example, item 62, comparing a</p>	<p>1           Q. Now, do you intend to rely on any materials 2 for your opinions in this case that are not identified 3 in the reference list or the additional materials 4 list? 5          MS. PARFITT: Objection. Form. 6          THE WITNESS: I mean, I am relying on 7 the expertise that I developed over more than 25 years 8 as an epidemiologist. And so there may be 9 publications, knowledge that I have that is not 10 specifically listed here. But, in general, I think 11 that is a fairly comprehensive list. I don't know 12 that I could say that it is completely exhaustive. 13 BY MR. JAMES: 14         Q. All right. I'm going to mark now as 15 Exhibit No. 8 a copy of a list entitled "Additional 16 Materials to Dr. Patricia Moorman." 17         (Exhibit No. 8 was marked for identification.) 18 BY MR. JAMES: 19         Q. Have you seen a copy of Exhibit 8 before, 20 Dr. Moorman? 21         A. I don't think that I have seen this 22 particular list. 23         MS. PARFITT: And for the record, this 24 list was compiled by Plaintiffs' counsel, Mr. James, 25 and I'm not sure whether or not my office -- the</p>

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<p>1 materials were sent, but I'm not sure whether the list 2 was sent to Dr. Moorman. 3 MR. JAMES: Okay. 4 BY MR. JAMES: 5 Q. Looking at this list, Dr. Moorman, this list 6 was furnished to us this week. 7 Do you understand that? 8 MS. PARFITT: Objection. 9 THE WITNESS: I -- if you say so. 10 BY MR. JAMES: 11 Q. Fair enough. This list -- does this list 12 include items that you were provided after you 13 authored your MDL report? 14 A. Yes. 15 Q. This list of materials did not form the 16 opinions that you included in your MDL report; 17 correct? 18 MS. PARFITT: Objection. Form. 19 THE WITNESS: I did not have access, 20 you know, to these expert reports and all before 21 I wrote my report, no. So they did not inform my 22 report. 23 BY MR. JAMES: 24 Q. Have you reviewed the materials on this list 25 as Exhibit No. 8 in their entirety?</p>	<p>1 reports have you reviewed? 2 A. Again, I have reviewed them in different 3 levels of detail and completeness. But I have looked 4 at the report of Anne McTiernan, April 5 Zambelli-Weiner, Daniel Clarke-Pearson, David Kessler, 6 Jack Siemiatycki, Michael Crowley, Rebecca 7 Smith-Bindman, and Sonal Singh, you know, to some 8 extent. 9 And I might have looked at some of the 10 others, but those were the ones that I specifically 11 recall looking at to some extent. 12 Q. Did you ask for Plaintiffs' counsel to 13 furnish you the expert reports in the litigation? 14 A. I did not. They provided them to me without 15 asking. 16 Q. Why did you review the reports of the other 17 experts? 18 A. Intellectual curiosity is the main thing. 19 I'm always interested to learn other people's 20 perspectives. And also to see if there was any 21 additional evidence that I might consider. 22 Q. And after reviewing those reports, did you 23 find any additional evidence that you might consider 24 that you didn't list in your MDL report? 25 A. I really didn't. I thought that there was a</p>
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<p>1 A. No, not in their entirety. 2 Q. Have you reviewed some and not reviewed 3 others? Is that fair? 4 A. I have -- yes, I have reviewed some of them. 5 I have not reviewed all of them. 6 Q. Okay. Is there any way for us to, again, 7 efficiently determine today which of these you've 8 reviewed and which ones you haven't? 9 A. I -- again, I could go through them and, to 10 the best of my knowledge, tell you which ones 11 I reviewed. Again, some of them I reviewed in more 12 detail, read more completely; others I looked at 13 more -- in a more cursory way. 14 Q. Did your review of any of these additional 15 materials change the opinions that you've included in 16 your MDL report? 17 A. No, they did not change my opinion. 18 Q. Did you review all of these expert reports 19 listed? 20 A. I did not review all of them. I reviewed 21 some of them. 22 Q. Okay. And these are the Plaintiffs' expert 23 reports that are listed on this list; correct? 24 A. That is my understanding. 25 Q. Okay. Which of the Plaintiffs' expert</p>	<p>1 remarkable level of consistency in the opinions, 2 particularly among the people who were reviewing the 3 epidemiologic literature. 4 Q. Dr. Moorman, I am going to now hand you a 5 copy of the reliance materials -- which is the title 6 of the list -- that you cited in the Ingham case. 7 Okay? I'm going to mark that as Exhibit No. 9. 8 (Exhibit No. 9 was marked for identification.) 9 BY MR. JAMES: 10 Q. Does that list look familiar to you? 11 A. Yes. 12 Q. And you see on the front of that list, it 13 says it was produced on March 5th, 2018; correct? 14 A. That is correct. 15 Q. And did you prepare this list? 16 A. I did not personally prepare it, no. 17 Q. Do you know that the reliance list that you 18 produced in Ingham and the reliance list that you have 19 attached as a reference list and a materials 20 considered list to your MDL report are substantially 21 different? 22 A. I would -- 23 MS. PARFITT: Objection. Form. 24 THE WITNESS: I would not be surprised 25 to say that there are some different references cited,</p>

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<p>1      yes. 2      BY MR. JAMES: 3          Q. Do you understand that there's a large number 4          of additional references that you have now cited in 5          your MDL report? 6          A. I -- the reference list is longer, yes. 7          Q. Do you have any idea by how much? 8              MS. PARFITT: Objection. Form. 9              THE WITNESS: No, I do not. 10     BY MR. JAMES: 11        Q. Would it surprise you to find out that there 12        are 94 new items listed in your MDL report that were 13        not listed in your March 2018 report? 14        MS. PARFITT: Objection. Form. 15        THE WITNESS: I -- you know, as you go 16        along, I think that it is not unusual to include more 17        references. I didn't know the exact number of new 18        items. 19     BY MR. JAMES: 20        Q. Again, did you prepare the lists that are 21        attached to your MDL report? 22        A. The -- the list of references, I prepared 23        that. The list of additional items, I think that was 24        a combination of some of what I had prepared and 25        I think what counsel had provided to me.</p>	<p>1      have become part of the public domain since that time. 2      Do you understand that? 3              MS. PARFITT: Objection. Form. 4              THE WITNESS: I understand that some of 5          them had been published before my deposition in March 6          2018. 7      BY MR. JAMES: 8          Q. Are there specific topics of the new 9          materials that you added between your Ingham 10       deposition and your MDL report? 11       A. I'm trying to think what they might be. I -- 12       some -- I think that some of the work, for example, by 13       Fletcher and Saed describing some of their work 14       related to possible biological mechanisms by which 15       talc exposure could lead to ovarian cancer -- I think 16       that was some work that I, perhaps, had not been aware 17       of previously. And so that's one thought that comes 18       to mind. 19       Q. All of the items that you added from March 20       2018 Ingham list to your MDL list, were all of those 21       items provided to you by Plaintiffs' counsel? 22       MS. PARFITT: Objection. Asked and 23       answered. 24       THE WITNESS: I don't -- I don't think 25       so.</p>
<p>1      Q. When you provided your opinion in March of 2      2018 in the Ingham case, did you do so based on a 3      comprehensive review of the literature? 4      A. I think that -- yes, I believe that it was a 5      comprehensive review, particularly of the 6      epidemiologic data. 7      Q. Why did you expand your list of references 8      and materials considered for the MDL? 9      A. I think just as you acquire, you know, become 10     aware of more references, maybe if there were any new 11     publications, or just as I expanded the knowledge, 12     I think that it would be appropriate to include more 13     references. 14     Q. Do you know that a number -- a large number 15     of the new references and materials considered were 16     available in the public domain or in the -- in this 17     litigation at the time that you gave your March 2018 18     deposition? 19     MS. PARFITT: Objection. Form. 20     THE WITNESS: It would not surprise me 21     to say that -- to see that some of them were there. 22     BY MR. JAMES: 23       Q. So, to be clear, the additional materials 24       that you have added between March 2018 and your MDL 25       report, those materials are not simply materials that</p>	<p>1      BY MR. JAMES: 2      Q. Would you say the majority of the items that 3      you've added from March 2018 to your MDL report were 4      provided to you by Plaintiffs' counsel? 5      MS. PARFITT: Objection. Form. 6      THE WITNESS: I don't know what 7      quantity, what fraction was provided by counsel and 8      which I identified. 9      MR. JAMES: Okay. I'm going to mark as 10     Exhibit No. 10 a copy of your references and materials 11     considered list for the MDL report. 12     (Exhibit No. 10 was marked for identification.) 13     BY MR. JAMES: 14       Q. Okay. Dr. Moorman -- 15       MS. PARFITT: Just one correction, 16       Mr. James. I think Exhibit 10 is just identified as 17       "references." I believe you characterized it as 18       "references and material considered." 19       MR. JAMES: Yeah. I think if you keep 20       flipping, Michelle -- or Ms. Parfitt -- it contains 21       both. 22       MS. PARFITT: Fair enough. 23     BY MR. JAMES: 24       Q. Okay. And you see, Dr. Moorman, if you've 25       had a chance to flip through it while counsel have</p>

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<p>1      been talking, you see that this Exhibit 10 includes 2      some highlighting; right? 3      A. Yes. 4      Q. The highlighting, I'll state for the record, 5      represents our effort to capture the items that have 6      been added between Ingham and your MDL report. 7      Do you see that highlighting? 8      A. Mm-hmm. 9      Q. Again, I think we discussed this earlier, but 10     does it surprise you to find out that there are 94 new 11     items on the two MDL lists? 12     MS. PARFITT: Objection. Asked and 13     answered. 14     THE WITNESS: Again, I believe that 15     I answered that question previously. 16     BY MR. JAMES: 17     Q. 13 of the 20 references that are new were 18     available to you as of March 2018. Did you know that? 19     MS. PARFITT: Objection. Asked and 20     answered. 21     THE WITNESS: Again, I answered the 22     question when you asked it previously. 23     BY MR. JAMES: 24     Q. I don't think that we've talked specifically 25     about the references, but the references -- the</p>	<p>1      "search terms" or the primary search that was done, it 2      was very simple. It was "talc" or "talcum powder" and 3      "ovarian cancer." But many times, the initial search 4      will not generate all of the articles that you would 5      need to describe the science. There may be additional 6      articles, either things that I was aware of or 7      different searches that might be done. 8      But the overall search term to find the 9      literature on talc and ovarian cancer, I did not 10     change that. 11     Would it be a good time to take a break? 12     We've been going for over an hour. 13     MR. JAMES: For sure. 14     MS. PARFITT: Certainly. 15     THE VIDEOGRAPHER: Going off record at 16     10:05 a.m. 17     (Recess taken from 10:05 a.m. to 10:18 a.m.) 18     THE VIDEOGRAPHER: Back on record at 19     10:18 a.m. 20     BY MR. JAMES: 21     Q. Dr. Moorman, are you ready to proceed? 22     A. I am. 23     Q. Great. Dr. Moorman, do you consider yourself 24     to be an expert in animal studies and talc? 25     A. No, I do not.</p>
<p>1      references that you've cited to your MDL report, those 2      are materials that you say form the opinions issued in 3      your MDL report; correct? 4      A. Yes. 5      Q. And you added 20 new references from your 6      Ingham list to your MDL report. Do you know that? 7      A. I know that there are new references, yes. 8      Q. And did you know that 13 of the 20 new 9      references -- again, the references are the list of 10     materials that formed your MDL report -- those were 11     available before March 2018? Did you know that? 12     A. I am aware that some of them were available. 13     Would like to make the point that many of 14     the points that I make in my report can be supported 15     by many, many references. And so the fact that 16     I added new references, that's really not too 17     surprising. It's -- again, if I felt like wanted to 18     emphasize a point more strongly, including additional 19     references, I don't think that would be surprising to 20     add additional references. 21     Q. Did you change your standards or search terms 22     that you used in the Ingham literature review for the 23     MDL review? 24     MS. PARFITT: Objection to form. 25     THE WITNESS: When we talk about</p>	<p>1      Q. Do you consider yourself to be an expert in 2      cell studies and talc? 3      A. No, I do not. 4      Q. Okay. Do you consider yourself to be an 5      expert in cytotoxicity studies and talc? 6      A. No, I do not. 7      Q. Do you consider yourself to be an expert in 8      mutagenicity studies and talc? 9      A. No, I do not. 10     Q. Do you consider yourself to be an expert in 11     genotoxicity studies and talc? 12     A. No, I do not. 13     Q. Do you consider yourself to be an expert in 14     mineral testing methods? 15     A. No, I do not. 16     Q. Okay. Do you consider yourself an expert in 17     mineral characterization? 18     A. No, I do not. 19     Q. Do you consider yourself to be an expert in 20     cancer biology? 21     A. I am not a cancer biologist; however, I 22     consider cancer biology frequently in my work. 23     Q. Do you consider yourself to be an expert in 24     geology? 25     A. No, I do not.</p>

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<p>1 Q. And do you consider yourself to be an expert 2 in mining? 3 A. No, I do not. 4 Q. Do you have expertise in pathology? 5 A. I -- once again, I am not a pathologist. 6 Sometimes rely on pathology and have collaborated with 7 pathologists, but I am not an expert pathologist. 8 Q. And would you agree do that not have 9 expertise in pathology? 10 MS. PARFITT: Objection. Asked and 11 answered. 12 THE WITNESS: You asked that I -- I do 13 not have expertise in pathology. I stated that I am 14 not a pathologist, but I do know some pathology from 15 my work in ovarian cancer and other cancers over the 16 years. So to say that I have no expertise isn't -- 17 I don't think that is correct. But we both -- I 18 acknowledge that I am not a trained pathologist. 19 BY MR. JAMES: 20 Q. Do you recall being asked in Ingham if you 21 considered yourself to have expertise in pathology? 22 A. I don't recall that question, specifically. 23 Q. I'm going to hand you a copy of the 24 transcript from Ingham that I brought with me, and I'm 25 going to refer you --</p>	<p>1 BY MR. JAMES: 2 Q. Have you done anything between your March 3 deposition and today in regards to obtaining expertise 4 in pathology? 5 A. No, I have not. 6 Q. Dr. Moorman, that's all I have on the 7 transcript for right now. 8 Dr. Moorman, do you agree that, prior to 9 offering expert opinion on a particular topic, an 10 expert should be conducted to -- expected to conduct a 11 comprehensive review of the medical and scientific 12 literature on that topic? 13 A. I'm sorry, I'm reading the question. 14 I -- I think that it is important to be 15 comprehensive. I think it's also important to 16 recognize that there are expertise in different areas. 17 And so we recognize that my expertise is in 18 epidemiology, and I have supplemented that with 19 other -- information from other areas as well. 20 Q. And with respect to the epidemiology on talc 21 and ovarian cancer, do you believe you conducted a 22 comprehensive review of that body of literature? 23 A. I believe that I have. 24 Q. Do you believe you conducted a comprehensive 25 review of the literature and scientific evidence on</p>
<p>1 MR. JAMES: And, Ms. Parfitt, I have 2 two copies, unfortunately, not three. And this will 3 be just a couple questions, Ms. Parfitt. So if you 4 bear with me -- 5 MS. PARFITT: You can just direct me to 6 the page. 7 MR. JAMES: Sure. Looking at page 280. 8 MS. PARFITT: Just bear with us both -- 9 me. All right. 10 MR. JAMES: I'm looking at lines 12 11 through 14. 12 MS. PARFITT: Thank you. 13 BY MR. JAMES: 14 Q. Do you see the question, Dr. Moorman, where 15 you were asked if you have expertise in pathology? 16 Do you see that question? 17 A. I do. 18 Q. Okay. And you answered that you do not; 19 correct? 20 MS. PARFITT: Objection. 21 THE WITNESS: Yes, that is how 22 I answered. I think that the more qualified answer 23 that I gave today is probably a more accurate 24 representation. 25</p>	<p>1 mechanism? 2 A. I considered the scientific mechanisms and, 3 again, recognizing what my expertise is. As I have 4 indicated earlier, I am not a cancer biologist. I'm 5 not a laboratory scientist. I consider some of that 6 data, but I recognize that I am not -- you know, that 7 is not my major area of expertise. 8 Q. And I do understand from your MDL report that 9 you considered biology; correct? 10 A. I did consider biology. 11 Q. And so my precise question is whether you 12 conducted a comprehensive review on the issue of 13 mechanism. 14 MS. PARFITT: Objection. Asked and 15 answered. 16 THE WITNESS: I considered it, and, 17 again, I think that there is information out there 18 that a cancer biologist would have the expertise to 19 review it in more detail because of their training, 20 which is different than the training and expertise 21 that I have. 22 MR. JAMES: I object to the 23 nonresponsive portion of the answer. 24 BY MR. JAMES: 25 Q. Dr. Moorman, did you conduct a comprehensive</p>

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<p>1 review of all of the literature on animal studies and 2 talc?</p> <p>3 MS. PARFITT: Objection. Form.</p> <p>4 THE WITNESS: I don't believe that -- I 5 cannot say that I considered -- identified or 6 considered every animal study.</p> <p>7 MR. JAMES: Object to the nonresponsive 8 answer.</p> <p>9 BY MR. JAMES:</p> <p>10 Q. Did you conduct a comprehensive review of the 11 literature on animal studies and talc?</p> <p>12 MS. PARFITT: Asked and answered. Objection.</p> <p>13 THE WITNESS: I -- I believe that 14 I answered your question. I said that I don't think 15 that I identified or considered every animal study 16 related to talc and ovarian cancer.</p> <p>17 BY MR. JAMES:</p> <p>18 Q. Did you conduct a comprehensive review of cell studies and talc?</p> <p>19 A. Once again, I considered some of that literature. Whether it was comprehensive or not, I -- 20 I don't think that I have the expertise to say that 21 I considered all of the cell studies and talc.</p> <p>22 Q. Did you conduct a comprehensive review on the</p>	<p>1 have referred to another article.</p> <p>2 Q. Did you conduct a comprehensive review of the 3 genotoxicity studies that are relevant to talc and 4 ovarian cancer?</p> <p>5 A. My answer to this question is similar to the 6 answers that I have given there.</p> <p>7 I have read some of the mechanistic studies. 8 I would not say that I necessarily identified every 9 relevant genotoxicity study.</p> <p>10 Q. And I'm not asking you, Dr. Moorman, if you 11 did find 100 percent of the studies. I'm asking you 12 if part of your review in this case began with the 13 intention to capture that body of literature.</p> <p>14 MS. PARFITT: Objection. Asked and 15 answered several times.</p> <p>16 THE WITNESS: My intent was, as an epidemiologist, was to be very comprehensive in my 17 area of expertise. There were certainly some other 18 related areas where I reviewed the literature, but 19 there are experts that will speak to that more 20 directly because of their expertise.</p> <p>21 BY MR. JAMES:</p> <p>22 Q. Okay. So will you agree with me today that you have not conducted a comprehensive review of the 23 cell studies and talc?</p>
<p>1 issue of migration in this case?</p> <p>2 A. I believe -- again, I considered every study 3 that I was aware of on migration of talc. It's a 4 little bit outside my area of expertise, so I am not 5 sure that I identified every single study in that 6 regard.</p> <p>7 Q. And with the methods that you applied in this 8 case, was it your intention to capture every study 9 pertaining to the issue of migration?</p> <p>10 MS. PARFITT: Objection. Form.</p> <p>11 THE WITNESS: I tried -- you know, my 12 intent was to read the articles that I was aware of, 13 that were brought to my attention. Because it is a 14 little bit outside my area of expertise, I cannot say 15 with 100 percent certainty that I identified every 16 single study related to migration.</p> <p>17 BY MR. JAMES:</p> <p>18 Q. But you testified that your intent was to read the articles that you are aware of or that were 19 brought to your attention.</p> <p>20 When you say brought to your attention, was 21 that by Plaintiffs' counsel?</p> <p>22 A. It's some -- some of them could have been brought to my attention in that way. Some of them 23 could have been -- like, an article that I read might</p>	<p>1 MS. PARFITT: Objection. Misstates her testimony.</p> <p>2 You may answer, Dr. Moorman.</p> <p>3 THE WITNESS: I -- I think that -- 4 I think that it is fair to say that I have probably 5 not reviewed every cell study and talc.</p> <p>6 BY MR. JAMES:</p> <p>7 Q. Okay. Dr. Moorman, I'm going to refer you back to the Ingham transcript, please, that's in front 8 of you.</p> <p>9 MS. PARFITT: Are we marking this, Scott?</p> <p>10 MR. JAMES: We can. Sure.</p> <p>11 Dr. Moorman, when we finish this, I'll take 12 that back from you and mark it as Exhibit No. 11. 13 Okay?</p> <p>14 (Exhibit No. 11 was marked for identification.)</p> <p>15 BY MR. JAMES:</p> <p>16 Q. Dr. Moorman, if you look at page 35 of your transcript, please. And if you look at lines -- it's 17 lines 11 through 17. It's a question and answer. If 18 you could review that for me.</p> <p>19 A. Okay.</p> <p>20 Q. And do you see that on line 16, you answered 21 in Ingham:</p>

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<p>1        "I have not done a comprehensive 2        review of those studies." 3        And there, you're referring to cell studies; 4        correct? 5        A. Yes, that is what it says here. 6        Q. Is that a truthful answer? 7        A. I think -- 8              MS. PARFITT: Objection. Form. 9        Go ahead. 10       THE WITNESS: I think that we -- you 11       know, as you have asked me the questions and I have 12       responded to them, that it's -- I have looked at some 13       of these studies. I would not have looked at all of 14       them. 15       BY MR. JAMES: 16       Q. As an epidemiologist, do you understand the 17       significance of the term "comprehensive review"? 18       A. Yes, I understand the term. 19       Q. Okay. And you understand that you have 20       testified that you conducted a comprehensive review of 21       the epidemiology literature for talc and ovarian 22       cancer; correct? 23       MS. PARFITT: Asked and answered. 24       THE WITNESS: Yes. 25</p>	<p>1        literature in greater detail. 2        Q. Have you undertaken a comprehensive review of 3        literature pertaining to the allegation that asbestos 4        may contaminate talcum powder products? 5              MS. PARFITT: Objection. Form. 6              THE WITNESS: A comprehensive review of 7        the literature pertaining to the allegation that 8        asbestos may contaminate talcum powder? 9        I have read quite a few articles and 10       documents addressing that. Whether or not I have read 11       every document addressing that, I'm not absolutely 12       sure. 13       BY MR. JAMES: 14       Q. Okay. Dr. Moorman, you're answering a 15       question that I didn't ask. And so I object to the 16       nonresponsiveness again. 17       Did you conduct a comprehensive review of 18       the body of literature assessing whether asbestos 19       contaminates talcum powder products? 20       A. I believe that I have answered your question. 21       It's -- 22       Q. Could you please answer it again. 23       A. I have read many articles on it. I do not 24       know that I have read every article related to that 25       topic, again. So...</p>
<p>1        BY MR. JAMES: 2        Q. And so I'm asking if you have applied the 3       same comprehensive review to these other areas, 4       including cell studies, animal studies, and mechanism 5       studies. 6              MS. PARFITT: Objection. Form. Asked 7       and answered. 8       BY MR. JAMES: 9        Q. Have you conducted the same comprehensive 10       review on that body of literature that you've 11       conducted on the epidemiology? 12        MS. PARFITT: Objection. 13        THE WITNESS: Once again, I have 14       answered the question. This is not my primary area of 15       expertise. And so I have not done the review to the 16       depth and the -- as comprehensive as I have done in my 17       area of expertise, which is epidemiology. 18       BY MR. JAMES: 19        Q. Have you done a comprehensive review of the 20       epidemiology on the relationship between asbestos and 21       ovarian cancer? 22        A. I believe that I have looked at a pretty 23       comprehensive -- I've had a pretty comprehensive look 24       at the asbestos and ovarian cancer. I believe that 25       I have looked at the talcum -- talc and ovarian cancer</p>	<p>1        Q. You understand that if you were going to 2       publish an opinion in peer-reviewed literature about 3       the allegation that asbestos contaminates talcum 4       powder products, you would be expected to conduct a 5       comprehensive review of that literature; correct? 6              MS. PARFITT: Objection. Form. 7              THE WITNESS: If I were to publish an 8       opinion in a peer-reviewed literature, you would want 9       to have a comprehensive review of the literature, yes. 10       BY MR. JAMES: 11        Q. And have you conducted a comprehensive review 12       of the literature on that topic, such that you would 13       feel comfortable providing an opinion for a 14       peer-reviewed journal? 15        MS. PARFITT: Objection. Form. 16       BY MR. JAMES: 17        Q. And the topic being the allegation that 18       asbestos contaminates talcum powder products. 19              MS. PARFITT: Objection. Form. 20              THE WITNESS: I think that I'm maybe 21       having some difficulty answering this question because 22       it would seem like this would be a topic that would be 23       more appropriately addressed by a mineralogist. And 24       I -- I actually cannot see myself writing a 25       peer-reviewed article about this because it seems</p>

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<p>1     somewhat -- it's related to the epidemiology of talc 2     and ovarian cancer, but I would not be writing an 3     article focused solely on that. 4     BY MR. JAMES: 5         Q. You understand that, in your expert report, 6         you have opined with -- that there's "credible 7         evidence" there has been asbestos in talcum powder 8         products. 9         Do you recall making that conclusion in your 10      report? 11         A. Yes. 12         Q. So to support that conclusion that you 13         believe there's "credible evidence" in talcum powder 14         products, did you conduct a systematic review of the 15         literature to support that conclusion? 16         A. I did not -- 17         MS. PARFITT: I'm going to object to 18         the form of the question. Some words were left out. 19         You may answer. 20         THE WITNESS: In my report, I cited 21         literature that did support that opinion. 22         Did I conduct a systematic review that 23         identified possibly every piece of literature that 24         addressed the topic? No, I did not do that. 25</p>	<p>1         A. It was part of the basis for my opinion, 2         along with some peer-reviewed literature. 3         Q. Okay. With respect to the company documents, 4         were those documents hand-selected for you by 5         Plaintiffs' counsel? 6             MS. PARFITT: Objection. Form. 7             THE WITNESS: They were provided to me 8         by Plaintiffs' counsel. 9     BY MR. JAMES: 10         Q. Okay. When you saw those documents, did you 11         ask if there were additional documents that would 12         address the issue of asbestos contamination? 13         A. I don't know that I asked if there were 14         additional documents. It was my impression that there 15         were probably many other documents related to this 16         that were not provided to me. 17         Q. And as a scientist, wouldn't you be 18         interested in knowing if there are other documents 19         that have been produced in this litigation that rebut 20         the claim that asbestos contaminates talcum powder 21         products? 22         MS. PARFITT: Objection. Form. 23         THE WITNESS: This is an interesting 24         question because the claim had been made that 25         asbestos -- or, rather, that talcum -- talcum powder</p>
<p>1     BY MR. JAMES: 2         Q. Do you believe that the standards for 3         providing opinions in litigation reports differ from 4         the standards for providing opinions in published 5         literature? 6         MS. PARFITT: Objection. Form. 7         THE WITNESS: No. No. I think that 8         one is trying to provide evidence to support one's 9         opinions. 10         BY MR. JAMES: 11         Q. With respect to the issue of asbestos 12         contamination, Dr. Moorman, you said you did review 13         some articles. 14         How did you characterize that? 15         A. I said that I reviewed some -- some articles 16         and some -- some documents. I don't think that 17         I reviewed every article or document that is available 18         on that topic. 19         Q. With respect to documents, are you referring 20         to company documents provided to you by Plaintiffs' 21         counsel? 22         A. That -- that's part of what I reviewed, some 23         of those documents provided by counsel. 24         Q. And looking at those documents provided the 25         basis for your opinion; is that right?</p>	<p>1         products had been asbestos-free since 1976. And it 2         is -- the documents provided, including the 3         peer-reviewed as well as the other, saying that -- 4         provide evidence that that is not an accurate 5         statement. 6         We're not saying that every container of 7         talcum powder contains asbestos, but what I was saying 8         in my report is that there is evidence that some 9         talcum powder products have asbestos in them. 10         MR. DONATH: Move to strike, 11         nonresponsive. 12         BY MR. JAMES: 13         Q. So are you changing your report -- because in 14         the report, you say that there is "credible evidence." 15         Do you recall making that conclusion? 16         A. Yes. 17         Q. As a scientist, you understand that to give 18         something credit, you would necessarily need to 19         consider both sides of the story; correct? 20         MS. PARFITT: Objection. Misstates her 21         testimony. She's... 22         You can answer, Dr. Moorman. 23         THE WITNESS: I'm sorry? 24         MS. PARFITT: I said it misstates what 25         you're trying to suggest to the ladies and gentlemen</p>

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<p>1 of the jury. 2 But if you can answer that question again, 3 please try and answer Mr. James' question. And 4 look -- if you need to look at the question, please 5 do. 6 THE WITNESS: I think that I did -- it 7 says "As a scientist, you understand that to give 8 something credit, you would necessarily need to 9 consider both sides of the story." 10 And I think that I did consider both sides 11 of the story. 12 I think that, as I stated, the evidence does 13 not suggest that every container of talcum powder has 14 detectable asbestos in it. But my statement that 15 there is credible evidence that some talcum powder 16 products contain asbestos, I think that that statement 17 is absolutely true. There is some evidence to 18 indicate that some talcum powder -- or asbestos has 19 been identified in some talcum powder products. 20 BY MR. JAMES: 21 Q. Do you understand what Johnson &amp; Johnson's 22 position is with respect to that claim? 23 A. I -- I don't know specifically. Perhaps you 24 could -- could tell me. 25 Q. You understand that Johnson &amp; Johnson's</p>	<p>1 company documents and other materials to support your 2 conclusions about asbestos contamination? 3 A. I -- I wouldn't be able to quantify that. 4 I don't know specifically. 5 Q. Can you give us an estimate? 6 A. I think it would be pretty difficult to come 7 up with an estimate. You know, I read some documents 8 from the company. I read documents -- some 9 peer-reviewed literature. I reviewed documents 10 provided by Plaintiffs' counsel. 11 Perhaps -- I don't know. Perhaps ten -- ten 12 hours or so. 13 Q. When you said that you reviewed company 14 documents, again, those are the documents provided to 15 you by Plaintiffs' counsel; correct? 16 A. Yes. 17 MS. PARFITT: Objection. Form. 18 THE WITNESS: Yes, the Plaintiff 19 provided those documents to me. 20 BY MR. JAMES: 21 Q. And you did not ask Plaintiffs' counsel to 22 provide you additional documents once you saw the 23 first batch of documents; correct? 24 MS. PARFITT: Objection. Form. 25 THE WITNESS: I did not ask, no.</p>
<p>1 position is that talcum powder products have not been 2 contaminated with asbestos? Do you know that that's 3 Johnson &amp; Johnson's position? 4 A. I -- if you are telling me that now, I don't 5 know that I have -- I -- I'm trying to think what 6 I have read. I think that, yes, I have probably read 7 statements from the company that describes that as 8 their position. 9 Q. And do you know what Johnson &amp; Johnson bases 10 their position on? 11 A. Not specifically. 12 Q. Wouldn't that be pretty important to 13 understand before making an opinion about whether 14 there's credible evidence of asbestos contamination? 15 MS. PARFITT: Objection. Form. 16 THE WITNESS: Again, I think that when 17 one is trying to make a statement that there is no 18 asbestos contained in talc products, if you are 19 finding evidence from multiple sources that there is 20 asbestos contained in some talc products, that 21 supports the statement that I made in report that 22 there is credible evidence that not all talc products 23 are asbestos-free. 24 BY MR. JAMES: 25 Q. How many hours did you spend reviewing</p>	<p>1 BY MR. JAMES: 2 Q. You also looked at litigation reports from 3 Plaintiffs' expert regarding asbestos contamination; 4 correct? 5 A. Yes, I did. 6 Q. And you understand those experts are paid 7 litigation experts by the Plaintiffs; correct? 8 MS. PARFITT: Objection. Form. 9 THE WITNESS: Yes, I understand that 10 they are paid by the Plaintiffs. 11 BY MR. JAMES: 12 Q. One of those experts is Longo; correct? 13 A. That is correct. 14 MS. PARFITT: Is that Dr. Longo? 15 MR. JAMES: Thank you, Michelle. 16 BY MR. JAMES: 17 Q. Dr. Longo; is that correct? 18 A. That is correct. 19 Q. Okay. So you reviewed Dr. Longo's reports? 20 A. I looked at them, yes. 21 Q. Okay. Do you understand that in this 22 litigation, Johnson &amp; Johnson has presented experts to 23 rebut Dr. Longo's findings? 24 MS. PARFITT: Objection. Just let the 25 record reflect that the defense expert reports have</p>

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<p>1 not yet been provided in this litigation, in the MDL 2 litigation, so it would have been difficult to provide 3 that to Dr. Moorman. 4 BY MR. JAMES: 5 Q. You can still answer the question. 6 A. It would not surprise me to know that there 7 were reports provided by -- that was done for the 8 defense, but I have not seen them. 9 Q. Did you ask to see them? 10 MS. PARFITT: Objection. Form. 11 THE WITNESS: I did not ask to see -- 12 no, I did not. 13 BY MR. JAMES: 14 Q. And counsel just made a note on the record 15 about these litigation reports from the defense not 16 being made available yet in the MDL. 17 Do you understand that the defense has 18 presented experts, for example, in the Ingham case to 19 rebut Dr. Longo's findings? 20 A. I was not specifically aware of that. It 21 would not surprise me, however. 22 Q. You understand Dr. Longo's litigation reports 23 that you reviewed, those are not peer-reviewed. 24 Do you understand that? 25 MS. PARFITT: Objection. Form.</p>	<p>1 there's no safe level of asbestos, that any level of 2 asbestos in a talcum powder product is bad for the 3 health of the people who use it. 4 Q. Do you intend to offer any opinions about the 5 purported amount of contamination in talcum powder 6 products over the course of history? 7 MS. PARFITT: Objection. Form. 8 THE WITNESS: I am not going to offer 9 an opinion about the quantity of asbestos in talcum 10 powder products. 11 BY MR. JAMES: 12 Q. Have you, in the course of forming your 13 opinions in this case, ever reviewed the FDA testing 14 of talcum powder products for the presence of 15 asbestos? 16 A. I recall reviewing a document from FDA, yes. 17 Q. Okay. And that document is not discussed in 18 your report, is it? 19 A. No, I don't think that I specifically 20 reference that. 21 Q. Why is that? 22 A. I don't -- I don't know why I didn't 23 reference it. I read it, but... 24 MR. JAMES: I'm marking Exhibit No. 11 25 [sic], talc testing information from the FDA, that I'm</p>
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<p>1 THE WITNESS: Yes, I know that they are 2 not peer-reviewed. 3 BY MR. JAMES: 4 Q. With regard to the literature that you've 5 referenced having reviewed pertaining to the 6 allegation that talcum powder products are 7 contaminated with asbestos, what does that literature 8 say about Johnson &amp; Johnson products specifically? 9 A. I'm trying to recall specifically. I believe 10 that some of the articles were not specific about the 11 particular brand names that they tested. I think they 12 just described them as commercially available 13 products. But I believe that -- I want to say that 14 I recall at least one that described the products as 15 being Johnson &amp; Johnson. 16 Q. With respect to everything that you reviewed 17 pertaining to your claim in your report of "credible 18 evidence" of contamination of talcum powder products, 19 what did everything you reviewed tell us about the 20 amount of contamination in the products? 21 Do you have any opinions about amount? 22 A. I do. My opinions are that most of the 23 analyses that detected asbestos fibers in talcum 24 powder products detected low levels, and putting that 25 in the context that asbestos has been characterized as</p>	<p>1 handing you, Dr. Moorman. 2 (Exhibit No. 12 was marked for identification.) 3 MR. JAMES: I provided an extra copy if 4 you want to hand one to your counsel, please. Thank 5 you much. 6 MR. FARIES: This is 12. 7 MS. PARFITT: 11 is the transcript. 8 MR. JAMES: Got it. Thank you. I'll 9 fix the sticker once we finish the question. 10 MS. PARFITT: No worries. 11 BY MR. JAMES: 12 Q. Okay. Dr. Moorman, is this the document that 13 you had seen before? 14 A. I'm not sure if this is the same one or if 15 I -- no, I -- actually, I think that I did see this. 16 Q. And if you look over on page 2 of the 17 exhibit -- it's page 2 of 8 -- do you see at the 18 bottom, it says in the section "The results of FDA's 19 survey" -- do you see where I'm reading? 20 A. Yes. 21 Q. And the FDA here says (as read): 22 "The survey found no asbestos 23 fibers or structures in any of the 24 samples of cosmetic-grade raw 25 material talc or cosmetic products</p>

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<p>1               containing talc."</p> <p>2               Did I read that correctly?</p> <p>3               A. You did.</p> <p>4               MS. PARFITT: Are you going to complete</p> <p>5               this paragraph, or are you going to leave it at that?</p> <p>6               MR. JAMES: Michelle, you'll have an</p> <p>7               opportunity to ask your questions.</p> <p>8               MS. PARFITT: Well, just for</p> <p>9               completeness. Certainly, if that's how you'd like to</p> <p>10              handle it, that's fine.</p> <p>11              MR. JAMES: Okay. That's how it works.</p> <p>12              MS. PARFITT: Oh, I -- Scott, you don't</p> <p>13              have to educate me on how it works. I get how you're</p> <p>14              working, and we'll make it work on our side too.</p> <p>15              Thank you.</p> <p>16              BY MR. JAMES:</p> <p>17              Q. Dr. Moorman, is that conclusion cited</p> <p>18              anywhere in your report?</p> <p>19              A. That --</p> <p>20              MS. PARFITT: Objection to the partial</p> <p>21              conclusion.</p> <p>22              Please answer.</p> <p>23              THE WITNESS: Right. It's -- I did not</p> <p>24              put it in there. However, I considered as I was, you</p> <p>25              know, evaluating this literature, what it goes on to</p>	<p>1               proportion of the talcum powder products in the US are</p> <p>2               Johnson &amp; Johnson products.</p> <p>3               Q. Do you know if the FDA test results</p> <p>4               specifically pertain to Johnson &amp; Johnson products?</p> <p>5               A. I'm -- I believe that some of the products</p> <p>6               tested -- I believe that some of them were Johnson &amp;</p> <p>7               Johnson products, if I'm not mistaken. But I can't</p> <p>8               say that with certainty.</p> <p>9               Actually, when I look at the report, I do</p> <p>10              see that they list Johnson's baby powder.</p> <p>11              Q. And, Dr. Moorman, you're referring to page 7;</p> <p>12              correct?</p> <p>13              A. Yes.</p> <p>14              Q. Okay. Do you understand that the FDA also</p> <p>15              tested samples provided to them by the supplier of</p> <p>16              talc for Johnson &amp; Johnson products? Did you know</p> <p>17              that?</p> <p>18              A. I -- I think that I knew that. I believe</p> <p>19              I did know that.</p> <p>20              Q. Again, that's not quoted anywhere in your</p> <p>21              report either, is it?</p> <p>22              A. No, that is --</p> <p>23              MS. PARFITT: Object to form.</p> <p>24              THE WITNESS: -- not.</p>
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<p>1               say (as read):</p> <p>2               "The results were limited by the</p> <p>3               fact that only four talc suppliers</p> <p>4               submitted samples and by the</p> <p>5               number of products tested."</p> <p>6              BY MR. JAMES:</p> <p>7              Q. Okay.</p> <p>8              A. And so it goes on to say, you know,</p> <p>9              (as read):</p> <p>10              "They do not prove that most or</p> <p>11              all talc or talc-containing</p> <p>12              cosmetic products currently</p> <p>13              marketed in the US are likely to</p> <p>14              be free of asbestos</p> <p>15              contamination."</p> <p>16              So...</p> <p>17              Q. You're offering opinions in the MDL -- let me</p> <p>18              re-ask this.</p> <p>19              Are you offering opinions in the MDL that</p> <p>20              Johnson &amp; Johnson talcum powder products have been</p> <p>21              contaminated with asbestos at some point in time?</p> <p>22              A. In my opinion, I am referring to talcum</p> <p>23              powder products. Okay? I don't believe in my report,</p> <p>24              I ever specifically say Johnson &amp; Johnson talcum</p> <p>25              powder products, but I do recognize that a large</p>	<p>1              BY MR. JAMES:</p> <p>2              Q. Before offering opinions about "credible</p> <p>3              evidence," don't you think it would be important to</p> <p>4              mention the findings of the FDA on such an important</p> <p>5              issue?</p> <p>6              MS. PARFITT: Objection. Form.</p> <p>7              THE WITNESS: As I have stated before,</p> <p>8              my opinion was that there is credible evidence that --</p> <p>9              from peer-reviewed articles, from some other sources</p> <p>10              as well, that asbestos has been found in talcum powder</p> <p>11              products. I believe that that evidence is credible.</p> <p>12              I did not make the statement that it is in</p> <p>13              all products, but I think that my statement that there</p> <p>14              is credible evidence that some talcum powder products</p> <p>15              contain asbestos I think is accurate.</p> <p>16              BY MR. JAMES:</p> <p>17              Q. And is that a conclusion that you would feel</p> <p>18              comfortable providing in published peer-reviewed</p> <p>19              literature?</p> <p>20              MS. PARFITT: Objection. Form.</p> <p>21              THE WITNESS: To say that there is</p> <p>22              credible evidence that some talcum powder products</p> <p>23              contain asbestos, I think that that -- I would feel</p> <p>24              comfortable saying that based on peer-reviewed</p> <p>25              literature that has found that.</p>

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<p>1 BY MR. JAMES:</p> <p>2 Q. But you never undertook an effort to conduct</p> <p>3 a comprehensive review of the literature on the topic,</p> <p>4 did you?</p> <p>5 MS. PARFITT: Objection. Form. Asked</p> <p>6 and answered several times.</p> <p>7 THE WITNESS: Yes, I feel like I -- you</p> <p>8 have asked that, and I think that I have answered it.</p> <p>9 BY MR. JAMES:</p> <p>10 Q. What's your answer?</p> <p>11 A. My answer is that I have found evidence</p> <p>12 that -- from peer-reviewed literature, from other</p> <p>13 documents, that some asbestos has been detected in</p> <p>14 some talcum powder products.</p> <p>15 Q. With regard to the company documents that you</p> <p>16 reviewed that were provided to you by Plaintiffs'</p> <p>17 counsel, do you consider yourself an expert in</p> <p>18 reviewing the information conveyed by those documents?</p> <p>19 MS. PARFITT: Objection. Form.</p> <p>20 THE WITNESS: As I have indicated</p> <p>21 previously, I am not a mineralogist or a geologist,</p> <p>22 and so I would not consider myself an expert in</p> <p>23 reviewing those types of documents.</p> <p>24 BY MR. JAMES:</p> <p>25 Q. Do you have any knowledge about the</p>	<p>1 BY MR. JAMES:</p> <p>2 Q. Dr. Moorman, have you seen a 2014 letter from</p> <p>3 the FDA addressing a request for a warning on talcum</p> <p>4 powder products?</p> <p>5 A. Yes, I have.</p> <p>6 Q. Do you know that within that letter, the FDA</p> <p>7 comments on the issue of alleged asbestos</p> <p>8 contamination?</p> <p>9 MS. PARFITT: Objection. Form.</p> <p>10 THE WITNESS: If I could see the</p> <p>11 document. It has been a while since I have actually</p> <p>12 looked at it.</p> <p>13 BY MR. JAMES:</p> <p>14 Q. Absolutely.</p> <p>15 MR. JAMES: And if counsel could remind</p> <p>16 me, are we now on 13?</p> <p>17 MS. PARFITT: We are indeed.</p> <p>18 MR. JAMES: Thank you.</p> <p>19 MS. PARFITT: You are very welcome.</p> <p>20 (Exhibit No. 13 was marked for identification.)</p> <p>21 BY MR. JAMES:</p> <p>22 Q. Okay. Dr. Moorman, I'm handing you a copy of</p> <p>23 the 2014 FDA letter with an extra copy to pass to your</p> <p>24 counsel.</p> <p>25 MS. PARFITT: Thank you.</p>
<p>1 specifications that are used by Johnson &amp; Johnson in</p> <p>2 manufacturing its talcum powder products?</p> <p>3 A. No, I do not.</p> <p>4 Q. Do you have any expertise in the sufficiency</p> <p>5 of the specifications to detect the presence of</p> <p>6 asbestos?</p> <p>7 A. No, I do not.</p> <p>8 Q. Did you know that Johnson &amp; Johnson produces</p> <p>9 its talcum powder products in accordance with</p> <p>10 specifications set out by the US Pharmacopeial</p> <p>11 Convention?</p> <p>12 MS. PARFITT: Objection. Form.</p> <p>13 THE WITNESS: I was not specifically</p> <p>14 aware of that. I don't know what their specifications</p> <p>15 are.</p> <p>16 BY MR. JAMES:</p> <p>17 Q. Did Plaintiffs' counsel provide to you those</p> <p>18 specifications?</p> <p>19 A. Not that I recall.</p> <p>20 Q. Did you know that the specifications provide</p> <p>21 mechanisms to test for the absence of asbestos?</p> <p>22 MS. PARFITT: Objection. Form.</p> <p>23 THE WITNESS: I have already stated</p> <p>24 that I -- I don't know what those specifications are.</p>	<p>1 BY MR. JAMES:</p> <p>2 Q. Dr. Moorman, if you could turn to the second</p> <p>3 page of the letter. Is this the letter that you've</p> <p>4 seen before, Dr. Moorman?</p> <p>5 A. Yes, it is.</p> <p>6 Q. And do you see that, in the section entitled</p> <p>7 "Chemistry Findings," there's a discussion there by</p> <p>8 the FDA pertaining to asbestos; correct?</p> <p>9 A. Yes, I see that.</p> <p>10 Q. And do you see that at the bottom of the</p> <p>11 letter, the very last sentence, the FDA says</p> <p>12 (as read):</p> <p>13 "You have not provided evidence</p> <p>14 that asbestos-contaminated</p> <p>15 talc-containing cosmetic products</p> <p>16 are currently being marketed,</p> <p>17 since the data submitted is almost</p> <p>18 40 years old."</p> <p>19 Do you see that?</p> <p>20 A. I do see that.</p> <p>21 Q. Okay. And you said that you have reviewed</p> <p>22 this letter in its entirety before?</p> <p>23 A. I have read it, yes.</p> <p>24 Q. Do you have any reason to quarrel with the</p> <p>25 scientists at the FDA that have looked at the issue of</p>

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<p>1 asbestos contamination in talcum powder products?</p> <p>2 MS. PARFITT: Objection. Form.</p> <p>3 THE WITNESS: I don't know who those</p> <p>4 scientists are. I don't know any scientists at the</p> <p>5 FDA who would have done -- would have done this. I --</p> <p>6 so I can't say that I have a quarrel with them because</p> <p>7 I don't know them.</p> <p>8 BY MR. JAMES:</p> <p>9 Q. Do you have any opinions about the type of</p> <p>10 asbestos that is alleged to contaminate talcum powder</p> <p>11 products?</p> <p>12 A. I am certainly aware that there are different</p> <p>13 types of asbestos. Again, from a health perspective,</p> <p>14 there is no safe form of asbestos. So if there are</p> <p>15 different types, it really doesn't make a lot of</p> <p>16 difference in terms of the potential health effects.</p> <p>17 MR. JAMES: Object to the nonresponsive</p> <p>18 portion.</p> <p>19 BY MR. JAMES:</p> <p>20 Q. Do you intend to offer any opinions about the</p> <p>21 type of asbestos that Plaintiffs contend contaminates</p> <p>22 talcum powder products?</p> <p>23 A. No, I am not going to specifically address</p> <p>24 the types of asbestos in talcum powder products.</p> <p>25 Q. Do you hold the opinion that asbestos causes</p>	<p>1 Did you form your opinions about asbestos</p> <p>2 and talcum powder that are contained within your MDL</p> <p>3 report after being retained as an expert?</p> <p>4 MS. PARFITT: Object to form.</p> <p>5 THE WITNESS: I -- it is often -- has</p> <p>6 often been reported in the literature that talcum</p> <p>7 powder contained asbestos prior to 1976, and that</p> <p>8 products produced after that did not contain asbestos.</p> <p>9 And as I became involved in this litigation,</p> <p>10 I was made aware of and discovered some of the</p> <p>11 articles that showed that talcum powder products after</p> <p>12 1976 contained asbestos.</p> <p>13 And so my opinion was that -- my opinion</p> <p>14 that asbestos in current or recently marketed talcum</p> <p>15 powder products could explain -- was part of the</p> <p>16 biological mechanism by which exposure to talcum</p> <p>17 powder, that was -- that was formed as I became aware</p> <p>18 of more of the available information, when I became</p> <p>19 involved in this litigation.</p> <p>20 BY MR. JAMES:</p> <p>21 Q. Setting aside the issue of asbestos in talcum</p> <p>22 powder, do you believe that asbestos is a cause of</p> <p>23 ovarian cancer?</p> <p>24 A. Yes, I do.</p> <p>25 Q. How many studies have explored the link</p>
<p style="text-align: center;">Page 87</p> <p>1 ovarian cancer?</p> <p>2 A. Yes.</p> <p>3 Q. Do you hold the opinion that exposure to</p> <p>4 asbestos through use of talcum powder products causes</p> <p>5 ovarian cancer?</p> <p>6 A. My opinion is based on exposure to talcum</p> <p>7 powder products and whatever is contained within them.</p> <p>8 And so if there is asbestos within talcum powder</p> <p>9 products, which we have some evidence to suggest that</p> <p>10 that is the case, then that provides a potential</p> <p>11 biological mechanism by which talcum powder products</p> <p>12 could cause ovarian cancer.</p> <p>13 Q. The opinion that you have pertaining to</p> <p>14 asbestos and ovarian cancer, did you form that opinion</p> <p>15 in the context of litigation?</p> <p>16 MS. PARFITT: Objection. Form.</p> <p>17 THE WITNESS: I'm not sure how -- could</p> <p>18 you perhaps restate the question?</p> <p>19 BY MR. JAMES:</p> <p>20 Q. Absolutely.</p> <p>21 A. I'm not sure --</p> <p>22 Q. Absolutely.</p> <p>23 A. -- what you're asking.</p> <p>24 Q. Did you form the opinion that -- did you</p> <p>25 form -- let me start over.</p>	<p style="text-align: center;">Page 89</p> <p>1 between asbestos and ovarian cancer?</p> <p>2 MS. PARFITT: Objection. Form.</p> <p>3 THE WITNESS: In terms of epidemiologic</p> <p>4 literature, there have been a couple of meta-analyses;</p> <p>5 and the exact number, I don't have that off the top of</p> <p>6 my head, but I want to say approximately a dozen</p> <p>7 studies.</p> <p>8 BY MR. JAMES:</p> <p>9 Q. Did you review the entire body of literature</p> <p>10 looking at a purported link between asbestos and</p> <p>11 ovarian cancer?</p> <p>12 MS. PARFITT: Objection. Form.</p> <p>13 THE WITNESS: I know that I looked at</p> <p>14 the meta-analyses. I looked at some data from IARC,</p> <p>15 and I believe that I have looked in some degree at,</p> <p>16 I think, all of the epidemiologic studies about</p> <p>17 asbestos and ovarian cancer.</p> <p>18 BY MR. JAMES:</p> <p>19 Q. So did you look at all of the studies that</p> <p>20 are discussed in the IARC monograph?</p> <p>21 MS. PARFITT: Objection. Form.</p> <p>22 THE WITNESS: I have -- the IARC</p> <p>23 monograph, as they typically do, they look at many of</p> <p>24 the animal studies, some of the laboratory studies.</p> <p>25 I have not looked at all of them. I have looked at</p>

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<p>1 the epidemiologic studies, which, again, is my area of 2 expertise. 3 BY MR. JAMES: 4 Q. And we're speaking currently about the IARC 5 monograph on asbestos; correct? 6 A. Correct. 7 Q. On page 34 of your report, if that you have 8 handy, Dr. Moorman -- actually, I think I have the 9 wrong page number. Give me one second. 10 Okay. It's actually page 35. My apologies. 11 And you see -- I'm looking at the first -- 12 the top paragraph. And you state in the second 13 sentence -- do you see where I am? It starts with 14 "IARC"? 15 A. Yes. 16 Q. Says (as read): 17 "IARC has stated that a causal 18 association between exposure to 19 asbestos and cancer of the ovary 20 was clearly established based on 21 strongly positive cohort mortality 22 studies of women with occupational 23 exposure to asbestos, as well as 24 studies of women with 25 environmental exposure to</p>	<p>1 Dr. Moorman. 2 A. Yes. 3 Q. Actually, 256 is where it carries into. And 4 on page 256, there's a section entitled "syntheses." 5 Do you see where I am, Dr. Moorman? 6 A. Yes. 7 Q. Okay. And if you look at the right-hand 8 column, it's the first full paragraph in the middle of 9 the page. 10 A. Yes. 11 Q. And there, the IARC states that (as read): 12 "The working group noted that a 13 causal association between 14 exposure to asbestos and cancer of 15 the ovary was clearly established 16 based on five strongly positive 17 cohort mortality studies of women 18 with heavy occupational exposure 19 to asbestos." 20 Do you see that? 21 A. Yes. 22 Q. Okay. And so the IARC then goes on to say, 23 in the next sentence, that the conclusion (as read): 24 "Received additional support from 25 studies showing that women and</p>
<p>1 asbestos." 2 A. Yes. 3 Q. Do you see where I was reading? 4 A. Yes. 5 Q. To be clear, Dr. Moorman, that's not 6 precisely how IARC has stated that, is it? 7 MS. PARFITT: Objection. Form. 8 THE WITNESS: I -- 9 BY MR. JAMES: 10 Q. I'm sorry, Doctor. 11 If I may, Dr. Moorman, I'll just provide you 12 a copy. Is that okay? 13 A. Okay. 14 Q. I'm going to mark as Exhibit 14 a copy of 15 the -- what we're referring to as the asbestos 16 monograph that's 100C. 17 (Exhibit No. 14 was marked for identification.) 18 MS. PARFITT: Mr. James, just for the 19 record, that's not the entire 100C monograph, is it? 20 MR. JAMES: Thank you. Thank you. Let 21 me clarify. This is excerpts of -- Exhibit 14 is 22 excerpts of the monograph. 23 MS. PARFITT: Thank you. 24 BY MR. JAMES: 25 Q. Okay. And if we turn to page 254,</p>	<p>1 girls with environmental, but not 2 occupational exposure to asbestos, 3 had positive, but nonsignificant, 4 increases in both ovarian cancer 5 incidence and mortality." 6 Do you see that? 7 A. Yes. 8 Q. And so the IARC's conclusion here with 9 respect to asbestos and ovarian cancer. 10 Again, this conclusion is being made outside 11 the context of talcum powders; correct? 12 A. Right. This is based on asbestos exposure. 13 Q. And the way that IARC has structured this 14 paragraph is that they have said that they've based 15 their conclusion on the occupational studies; correct? 16 MS. PARFITT: Objection. Form. 17 THE WITNESS: Yes. 18 BY MR. JAMES: 19 Q. And then they do note the additional support 20 after that sentence; correct? 21 MS. PARFITT: Objection to form. 22 THE WITNESS: Yes. 23 BY MR. JAMES: 24 Q. Okay. And just to be clear, the IARC here 25 acknowledges that the non-occupational studies report</p>

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<p>1 nonstatistically significant associations; correct?</p> <p>2 A. They note "positive, though nonsignificant 3 increases."</p> <p>4 Yes, that's what it states.</p> <p>5 Q. And if you turn with me to page 280 of the 6 same monograph, Dr. Moorman, with respect to talcum 7 powder, specifically, on the right-hand column of 8 page 280, it's the third full paragraph down, the IARC 9 monograph states (as read):</p> <p>10 "The association between exposure 11 to talc, potential or retrograde 12 translocation to the ovarian 13 epithelium, and the development of 14 an ovarian cancer is 15 controversial."</p> <p>16 Do you see where I was reading that?</p> <p>17 A. I do see that.</p> <p>18 Q. So in the same monograph where they're 19 talking about asbestos and ovarian cancer in general, 20 the IARC calls out the issue of talcum powder as a 21 controversial association; correct?</p> <p>22 MS. PARFITT: Objection. Form.</p> <p>23 THE WITNESS: That's what it states, 24 yes.</p> <p>25</p>	<p>1 A. Yes.</p> <p>2 Q. The IARC has not concluded that the presence 3 of asbestos in talc powders renders such powders as 4 carcinogenic, has it?</p> <p>5 MS. PARFITT: Objection. Form.</p> <p>6 THE WITNESS: I can't recall if they 7 have made that conclusion or not.</p> <p>8 BY MR. JAMES:</p> <p>9 Q. You understand that when the IARC separately 10 assessed talcum powders in the other monograph that 11 we're talking about, they classified perineal talc use 12 as a 2B do you know that?</p> <p>13 MS. PARFITT: And you're referring to 14 the 2010 monograph?</p> <p>15 MR. JAMES: Yes, and I think that's 16 what I said, and if I didn't, my apologies.</p> <p>17 THE WITNESS: Yes, to be a possible 18 carcinogenic.</p> <p>19 BY MR. JAMES:</p> <p>20 Q. Okay. And by designating perineal talc use 21 as a 2B, the IARC is not concluding that it is, in 22 fact, a carcinogenic; correct?</p> <p>23 A. What they are concluding is that it is a 24 possible carcinogen.</p> <p>25 Q. IARC has multiple classifications; correct?</p>
<p>1 BY MR. JAMES:</p> <p>2 Q. Did you cite that conclusion in your report?</p> <p>3 MS. PARFITT: Objection. Form.</p> <p>4 THE WITNESS: I did not specifically 5 cite this, because, you know, again, this was a 6 conclusion made IARC 2010, and additional data has 7 accumulated. And so I think that we're seeing that if 8 they had -- you know, of course, I have no way of 9 knowing what they would conclude, but I think that, in 10 light of additional evidence that has arisen since the 11 time that this report was written, a different 12 conclusion could have been reached.</p> <p>13 MR. JAMES: Okay. And I object to the 14 nonresponsive portion of that answer.</p> <p>15 BY MR. JAMES:</p> <p>16 Q. And for purposes of the record, Dr. Moorman, 17 the monograph that we're looking at here together was 18 published in 2012; correct?</p> <p>19 A. That is correct.</p> <p>20 Q. I think that you're probably thinking of the 21 other monograph, which is the 2010 monograph; correct?</p> <p>22 When you said 2010?</p> <p>23 A. Well, I was looking at what was stated in 24 that paragraph.</p> <p>25 Q. Fair enough. Fair enough.</p>	<p>1 A. That is correct.</p> <p>2 Q. If they characterize -- if they -- if they 3 characterize something as a carcinogen, they label it 4 as a Group 1; correct?</p> <p>5 A. That is correct.</p> <p>6 Q. If they characterize something as a probable 7 carcinogen, they label it a 2A; correct?</p> <p>8 A. That is correct.</p> <p>9 Q. And if they characterize something as a 10 possible, it's a 2B; correct?</p> <p>11 A. That is correct.</p> <p>12 Q. And the IARC has settled on 2B with talc -- 13 and with perineal talc use; correct?</p> <p>14 MS. PARFITT: Objection. Form.</p> <p>15 THE WITNESS: Once again, at the time 16 of the report, that's what they decided on.</p> <p>17 BY MR. JAMES:</p> <p>18 Q. The opinions that you're offering in 19 litigation in this MDL report are contrary to those 20 reached by IARC; correct?</p> <p>21 MS. PARFITT: Objection. Form.</p> <p>22 THE WITNESS: No. I don't think that 23 they are contrary. I think possible carcinogen -- 24 they are not saying it is not a carcinogen; they're 25 saying a possible carcinogen.</p>

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<p>1        And I -- my report, with the additional 2 information that has been published since the time 3 that this report was done, I think that it strengthens 4 the conclusions. And that's why I felt comfortable 5 saying that it is a cause of ovarian cancer. 6 BY MR. JAMES: 7        Q. And so what you're saying is different than 8 what the IARC said in 2010; correct? 9        MS. PARFITT: Objection. Misstates her 10 testimony. Asked and answered. 11        THE WITNESS: Im saying that there is 12 additional evidence that has arisen, and it 13 strengthens the -- it strengthens the evidence for the 14 association between talc and ovarian cancer. 15 BY MR. JAMES: 16        Q. And in 2010, IARC did not determine that 17 perineal talc use was carcinogenic; correct? 18        A. They said -- 19        MS. PARFITT: Objection. Misstates 20 testimony. 21        THE WITNESS: -- it was a possible 22 carcinogen. 23        MR. JAMES: I didn't misstate any 24 testimony. I didn't state anything about her 25 testimony. I asked a question.</p>	<p>1        MR. MIZGALA: There's a big difference. 2        MR. JAMES: Let's just move on. 3        MS. PARFITT: I didn't say 4 "peritoneal." That may be what the court reporter -- 5        And, Sophie, the record should reflect that 6 when we are saying -- for the most part, when someone 7 wants to say something, it's "perineal" -- 8        MR. JAMES: May we continue? 9        MS. PARFITT: I appreciate it. Thank 10 you. 11        I just want to help the court reporter out, 12 Scott. I'm sure you want a very clear record. 13        And, James, thank you very much for making 14 sure it is clear. 15        So, Sophie, thank you. When we say 16 "perineal," we mean "perineal." Not your fault at 17 all. 18        Thank you. 19        MR. JAMES: Are we good? 20        MS. PARFITT: We are so good. 21 BY MR. JAMES: 22        Q. In 2010, the IARC declared talc -- perineal 23 talc a 2B; correct? 24        A. That is correct. 25        Q. Okay. In 2010, the evidence that was before</p>
<p>1        MS. PARFITT: You actually 2 misrepresented her answer in your question. That was 3 my objection. You can go ahead. 4        MR. JAMES: If you'd like to read the 5 realtime, I didn't say anything about what she 6 testified to. I asked a question -- 7        MS. PARFITT: You said, "In 2010" -- 8        (Over-speaking.) 9        MR. JAMES: But if you want to continue 10 to do that all day -- 11        MS. PARFITT: -- "IARC did not 12 determine that peritoneal [sic] talc was carcinogenic; 13 correct?" 14        Just before that, she had said that it was 15 carcinogenic. 16        MR. JAMES: But I wasn't misstating her 17 testimony. 18        MS. PARFITT: Well, when you say that, 19 and she answered the question before that that's not 20 what IARC said, and then you say that is what IARC 21 says, you are misstating her testimony. 22        MR. MIZGALA: It's "perineal," not 23 "peritoneal." 24        MR. JAMES: Let's just move on. If you 25 continue to --</p>	<p>1        the IARC -- was the evidence at that time sufficient 2 for IARC to have said something more than 2B? 3        MS. PARFITT: Objection. Form. 4        THE WITNESS: I'm not quite sure. 5 BY MR. JAMES: 6        Q. You want me to rephrase? 7        A. Yes, if you wouldn't mind. 8        Q. You alluded to evidence that has -- and if 9 I'm misstating your testimony, Ms. Parfitt, please 10 object, because now I actually am talking about your 11 testimony. 12        A. Okay. 13        Q. But you alluded earlier that evidence has 14 developed since the 2010 monograph; correct? 15        A. Right. 16        Q. And so my question is, in your expert 17 assessment in 2010, when the IARC declared perineal 18 talc use to be a 2B, was the evidence at that snapshot 19 in time sufficient to support something more than 2B, 20 less than 2B, or did the IARC get it right? 21        MS. PARFITT: Objection. Form. 22        THE WITNESS: I -- I think that their 23 statement that it is a possible carcinogen -- I don't 24 know if you can -- you know, possible versus probable, 25 it's -- I don't know that there is any checklist to</p>

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<p>1 say this level of evidence would lead it to possible 2 versus probable. 3 And so to say whether or not they got it 4 right, I don't know how to answer that question. 5 I think that they certainly are indicating that there 6 was evidence indicating a problem, and now we have 7 more evidence that strengthens the -- I think there's 8 greater evidence that talc can cause ovarian cancer. 9 BY MR. JAMES: 10 Q. If someone had asked you to assess the body 11 of scientific and medical literature in 2010 on the 12 claim that talcum powder products cause ovarian 13 cancer, would you have opined in 2010 that the 14 evidence was sufficient to state that talcum powder 15 products generally cause ovarian cancer? 16 MS. PARFITT: Objection. Form. 17 THE WITNESS: I think that it is 18 impossible to say with certainty what -- at that point 19 in time what would I have opined? I think that, as we 20 are well aware, the body of literature has continued 21 to grow over time. I think that it has only 22 strengthened over time. At what point would I have 23 been able to opine that talc is a cause of ovarian 24 cancer? I can't pinpoint that exactly. 25</p>	<p>1 MS. PARFITT: Objection to form. 2 THE WITNESS: I -- when I look at some 3 of the studies, there are limitations, as there are 4 with -- I would say, with any study of humans and 5 cancer. 6 One of the things that comes to mind as a 7 possible limitation is that, in the occupational 8 studies, the cohorts are relatively small for looking 9 at cancer outcomes. So in many -- maybe the 10 majority -- of them, they had a few hundred people in 11 the cohort; and, when you looked at the expected 12 versus the observed number of cases, we're talking 13 about a handful of cases. 14 So it might be, you know, two or three 15 observed cases versus .6 expected or something like 16 that. 17 So that is a limitation of all of -- as 18 I recall, all of the occupational cohort studies that 19 the sample cites of the cohort. 20 BY MR. JAMES: 21 Q. Would you also acknowledge that another 22 limitation to that body of literature is the fact that 23 it's in the occupational context? 24 MS. PARFITT: Objection. Form. 25 THE WITNESS: I don't necessarily</p>
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<p>1 BY MR. JAMES: 2 Q. And when you say in 2010 IARC declared talc a 3 2B, I think the phrasing that you used was that they 4 were saying that there was, quote, a problem. 5 Is that what you said? 6 A. I think that I said something to that effect. 7 Q. Okay. You understand that the IARC's 8 classification system does have a checklist of sorts 9 to determine if something is a 1, a 2A, or a 2B; 10 correct? Or a 3 and so on and so forth. 11 A. I am not familiar with the exact checklist. 12 Yes. 13 Q. Do you understand that, if IARC declares 14 something a 2B, it's concluding that chance, bias, and 15 confounding cannot be ruled out? Did you know that? 16 A. Again, off the top of my head, I cannot 17 recall exactly what are their -- you know, as you put 18 it, what is their checklist. 19 Q. Returning now back to the body of literature 20 on asbestos and ovarian cancer, you have testified 21 that you have reviewed that body of literature; 22 correct? 23 A. Yes. 24 Q. Do you recognize any limitations to that body 25 of literature?</p>	<p>1 consider that a limitation. That is where people had 2 exposure to this -- to asbestos in an occupational 3 setting. So if you want to look at the health effects 4 of that exposure, that's exactly where you would do 5 the study. 6 BY MR. JAMES: 7 Q. Do you agree that the body of literature in 8 the occupational context, which looks at exposure to 9 asbestos in the occupational setting, is different 10 than the allegation that exposure to contaminated 11 talcum powder products causes ovarian cancer? 12 A. The -- I agree that there is some difference 13 in the exposure, but it's part of the body of 14 literature. It's -- people exposed in this way, they 15 are at increased risk for ovarian cancer. So they may 16 have different levels of exposure, different routes of 17 exposure, but it's all part of the body of literature. 18 Q. You would agree that someone that's exposed 19 to asbestos-containing products in a factory 20 environment for a full workday is experiencing a 21 different level of exposure to someone who is using 22 allegedly contaminated asbestos talcum powder 23 products? 24 MS. PARFITT: Objection. Form. 25</p>

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<p>1 BY MR. JAMES:</p> <p>2 Q. Let me rephrase that, because I jumbled that</p> <p>3 up.</p> <p>4 Would you agree that the level of exposure</p> <p>5 that someone would experience in the occupational</p> <p>6 setting to asbestos products is qualitatively</p> <p>7 different than what Plaintiffs are alleging in this</p> <p>8 case, which is exposure to talcum powder products that</p> <p>9 are allegedly contaminated with asbestos?</p> <p>10 A. I acknowledge that the exposures are</p> <p>11 different. It's how they are applied -- or, you know,</p> <p>12 the -- you know, we're talking about exposure to the</p> <p>13 genital area when we're talking about talcum powder</p> <p>14 products that may contain asbestos, where we would not</p> <p>15 expect to have genital exposure of asbestos in an</p> <p>16 occupational setting.</p> <p>17 So, yes, there are differences.</p> <p>18 Q. Do you acknowledge another limitation in the</p> <p>19 body of literature that IARC looked at to be</p> <p>20 misclassification?</p> <p>21 A. In epidemiology, we -- we recognize that</p> <p>22 there is likely to be misclassification in any</p> <p>23 epidemiologic study that you do. This is not a</p> <p>24 situation like with laboratory studies of animals</p> <p>25 where you can control every exposure, measure it very</p>	<p>1 meta-analysis before; correct?</p> <p>2 A. I have.</p> <p>3 Q. You don't have any discussion of the Reid</p> <p>4 paper in your report; correct?</p> <p>5 A. I don't -- I don't believe I do.</p> <p>6 Q. Do you understand that the Reid paper</p> <p>7 conflicts in part with the claim that asbestos is a</p> <p>8 cause of ovarian cancer?</p> <p>9 MS. PARFITT: Objection.</p> <p>10 THE WITNESS: I know what they -- what</p> <p>11 these authors concluded.</p> <p>12 BY MR. JAMES:</p> <p>13 Q. And if you look with me on page 1294,</p> <p>14 Dr. Moorman, in the "conclusions" section, you see at</p> <p>15 the bottom of that paragraph, with the sentence</p> <p>16 beginning with the word "however" -- it's sort of</p> <p>17 three-fourths of the way down -- the authors state</p> <p>18 (as read):</p> <p>19 "However, the authors of this</p> <p>20 article suggest that the IARC</p> <p>21 decision to determine asbestos</p> <p>22 exposure as a cause of ovarian</p> <p>23 cancer was premature and not</p> <p>24 wholly supported by the evidence."</p> <p>25 Do you see where I read that?</p>
<p>1 accurately.</p> <p>2 So some potential misclassification is</p> <p>3 possible, as it is in any epidemiologic study.</p> <p>4 Q. And the issue of misclassification has been</p> <p>5 specifically acknowledged in this body of literature;</p> <p>6 correct?</p> <p>7 MS. PARFITT: Objection to form.</p> <p>8 THE WITNESS: Can you be more specific</p> <p>9 about which misclassification you're referring to?</p> <p>10 BY MR. JAMES:</p> <p>11 Q. Sure. So what I'm referring to is</p> <p>12 misclassification of disease.</p> <p>13 Do you -- do you recall that, in this body</p> <p>14 of literature, there is discussion that, given the</p> <p>15 small number of cases which you described earlier,</p> <p>16 misclassification -- the potential for disease</p> <p>17 misclassification is a limitation to this body of</p> <p>18 literature?</p> <p>19 A. I am aware that that is an issue that has</p> <p>20 been discussed in this literature, yes.</p> <p>21 MR. JAMES: And I'm going to mark as</p> <p>22 Exhibit No. 15 the Reid paper.</p> <p>23 (Exhibit No. 15 was marked for identification.)</p> <p>24 BY MR. JAMES:</p> <p>25 Q. And, Dr. Moorman, you've seen this Reid</p>	<p>1 A. I do see that.</p> <p>2 Q. Okay. And so you acknowledge here that the</p> <p>3 authors of this paper have called into question the</p> <p>4 IARC decision; correct?</p> <p>5 MS. PARFITT: Objection. Form.</p> <p>6 THE WITNESS: I see what they have</p> <p>7 stated here, that --</p> <p>8 BY MR. JAMES:</p> <p>9 Q. And --</p> <p>10 A. -- that is their opinion, yes.</p> <p>11 Q. Excuse me, Doctor. My apologies.</p> <p>12 A. Yes.</p> <p>13 Q. And, again, this paper is assessing the</p> <p>14 IARC's conclusion about asbestos and ovarian cancer in</p> <p>15 general; correct?</p> <p>16 MS. PARFITT: Objection. Form.</p> <p>17 BY MR. JAMES:</p> <p>18 Q. It's not -- this article isn't pertaining to</p> <p>19 the issue of alleged asbestos contamination in talcum</p> <p>20 powder products, is it?</p> <p>21 A. Right. This is focused just on asbestos and</p> <p>22 ovarian cancer.</p> <p>23 Q. And if you look at the bottom of that -- the</p> <p>24 very last sentence in that paragraph, you see where</p> <p>25 the authors there discuss the potential problem of</p>

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<p>1 misclassification?</p> <p>2 A. I'm sorry, where are you?</p> <p>3 Q. It's the very last sentence, Doctor.</p> <p>4 A. Yes, I see what is written there.</p> <p>5 Q. So this article conflicts with your</p> <p>6 litigation opinion; correct?</p> <p>7 MS. PARFITT: Objection. Form.</p> <p>8 THE WITNESS: This reflects the opinion</p> <p>9 of these authors. There was another meta-analysis of</p> <p>10 asbestos and ovarian cancer that I believe was</p> <p>11 published in the same year. And as I recall, the</p> <p>12 conclusions of those authors, while acknowledging</p> <p>13 potential misclassification of disease, they felt like</p> <p>14 the evidence was adequate to rule that out as a</p> <p>15 possible source of bias that would explain the</p> <p>16 association that was observed.</p> <p>17 BY MR. JAMES:</p> <p>18 Q. And you're speaking of the Camargo article,</p> <p>19 I believe?</p> <p>20 A. Yes.</p> <p>21 Q. And have you separately assessed the issue of</p> <p>22 misclassification and whether, in your mind, that</p> <p>23 presents a significant enough problem to call into</p> <p>24 question the IARC conclusions?</p> <p>25 MS. PARFITT: Objection. Form.</p>	<p>1 Q. Did you review those articles?</p> <p>2 A. I did look at them, and as I recall, almost</p> <p>3 all of those -- the miners and -- almost all of the</p> <p>4 miners, and probably the millers, they were focusing</p> <p>5 primarily on males who were the people who were mostly</p> <p>6 involved in that type of work.</p> <p>7 Q. You would agree with me that if talcum</p> <p>8 powder, that is used in cosmetic talc products, is, in</p> <p>9 fact, contaminated with asbestos, then you would</p> <p>10 expect to see increased cancer incidence rates, for</p> <p>11 example, of mesothelioma, in cosmetic talc miners and</p> <p>12 millers; correct?</p> <p>13 MS. PARFITT: Objection. Form.</p> <p>14 THE WITNESS: I wouldn't be surprised</p> <p>15 to see that, yes.</p> <p>16 BY MR. JAMES:</p> <p>17 Q. And did you know that that body of literature</p> <p>18 reports no increased cancer incidence in talc miners</p> <p>19 and millers?</p> <p>20 A. It has been a while since I have looked at</p> <p>21 those papers, so I don't remember exactly what they</p> <p>22 reported.</p> <p>23 Q. And those papers are not discussed in your</p> <p>24 report; correct?</p> <p>25 A. Once again, I was focusing primarily on</p>
<p>1 THE WITNESS: Let me read your...</p> <p>2 I believe that I was convinced by the</p> <p>3 information presented in the Camargo article that</p> <p>4 I don't think that misclassification was enough of a</p> <p>5 problem to change the conclusion.</p> <p>6 BY MR. JAMES:</p> <p>7 Q. Are you familiar with -- did you undertake a</p> <p>8 Bradford Hill analysis of the literature on asbestos</p> <p>9 and ovarian cancer to reach the conclusion that</p> <p>10 asbestos is a cause of ovarian cancer?</p> <p>11 A. I didn't -- did not do the Bradford Hill</p> <p>12 analysis as I did with the talcum powder products and</p> <p>13 ovarian cancer. I felt like it was pretty well</p> <p>14 accepted.</p> <p>15 Q. Did you consider a body of literature</p> <p>16 commonly referred to as the "miners and millers</p> <p>17 studies"?</p> <p>18 A. Please -- I'm sorry. When you talk about the</p> <p>19 miners and millers studies, I'm not sure that I'm on</p> <p>20 the same page with you.</p> <p>21 Q. Are you familiar -- are you aware of the fact</p> <p>22 that there's a body of literature that has looked at</p> <p>23 cancer incidence rates in miners and millers of talc?</p> <p>24 A. Yes, I am aware of some of those articles.</p> <p>25 Yes.</p>	<p>1 ovarian cancer. And as many of these were on male</p> <p>2 subjects, I had looked at them, but they were of</p> <p>3 somewhat lesser importance to my review.</p> <p>4 Q. If --</p> <p>5 MS. PARFITT: I don't want to</p> <p>6 interrupt, and maybe a few follow-up questions. We're</p> <p>7 probably into about an hour and 20 minutes or so. But</p> <p>8 I don't want to interrupt your flow either.</p> <p>9 MR. JAMES: I can finish up in a few,</p> <p>10 or if you need a break now, we can take it now.</p> <p>11 THE WITNESS: Let's finish up in a few.</p> <p>12 MR. JAMES: And when I say "finish up,"</p> <p>13 I just mean this line. I apologize for that. That</p> <p>14 was misleading, I think.</p> <p>15 Sure. Give me a couple more, and then we'll</p> <p>16 take a break.</p> <p>17 THE WITNESS: Yeah, we can go a few</p> <p>18 more minutes.</p> <p>19 MS. PARFITT: Thank you, Scott.</p> <p>20 BY MR. JAMES:</p> <p>21 Q. If asbestos-contaminated talcum powder</p> <p>22 products have existed on the market for some period of</p> <p>23 time, wouldn't you expect to find higher incidence</p> <p>24 rates of other cancers of talcum powder users?</p> <p>25 MS. PARFITT: Objection. Form.</p>

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<p>1           THE WITNESS: It depends. 2       BY MR. JAMES: 3       Q. For example -- oh, I'm sorry. I thought you 4       were done. 5       A. I am done. Go ahead. 6       Q. For example, if asbestos has contaminated 7       talcum powder products for some period of time, 8       wouldn't you expect to see higher rates of 9       mesothelioma in users of cosmetic talcum powder 10      products? 11      A. You know, mesothelioma is an exceedingly rare 12     cancer, and I don't know -- I don't know to what 13     extent it has been -- talcum powder products -- 14     cosmetic talcum powder products has been examined as a 15     risk factor for that. 16      Q. Are you aware of any data showing that users 17     of cosmetic talcum powder products are at greater risk 18     of mesothelioma, asbestosis, or any other 19     asbestos-related diseases? 20      MS. PARFITT: Objection. Form. 21      THE WITNESS: I can't think of that 22     data right offhand, no. 23      MR. JAMES: Okay. And how about now 24     for a break? 25      THE WITNESS: Okay.</p>	<p>1           MS. PARFITT: Objection. Form. 2       THE WITNESS: I considered it as part 3       of the constituents of the talcum powder products. My 4       overall opinion is based on exposure to talcum powder 5       products and whatever constituents are in there, 6       including the fibrous talc. 7       BY MR. JAMES: 8       Q. Given that you have opined in your MDL report 9       for the first time on fibrous talc and did not provide 10      that opinion in the Ingham case, can you tell me what 11      you're basing your opinion on with regard to the 12      fibrous talc? 13      MS. PARFITT: Objection. 14      Hey, Scott, if I can ask -- I'm sorry, it 15      isn't rolling. Is there some reason? I don't want to 16      interrupt. We'll deal with it. 17      THE COURT REPORTER: I can come over 18      and do it, but we'll have to go off. 19      MS. PARFITT: Sorry about that. 20      THE VIDEOGRAPHER: Going off the record 21      at 12:40 p.m. 22      (Off the record.) 23      THE VIDEOGRAPHER: Back on record at 24      12:41 p.m. 25</p>
<p>1           MS. PARFITT: Thank you. 2       THE VIDEOGRAPHER: Going off record at 3       11:45 a.m. 4       (Recess taken from 11:45 a.m. to 12:39 p.m.) 5       THE VIDEOGRAPHER: Back on record at 6       12:39 p.m. 7       BY MR. JAMES: 8       Q. Dr. Moorman, you include in your MDL report 9       references to "talc occurring in the fibrous habit." 10      Do you recall referring to that in your 11     report? 12      A. Yes, I do. 13      Q. That terminology is new to the MDL for you, 14     isn't it? 15      MS. PARFITT: Objection. Form. 16      BY MR. JAMES: 17      Q. I'll clarify. 18      A. Please. Please do. 19      Q. You did not -- in your Ingham testimony, 20     where you provided your opinions in the Ingham case, 21     you did not refer to "fibrous talc," did you? 22      A. No, I don't believe I did. 23      Q. So that -- sorry. 24      So that's a new component of your opinion in 25     the MDL?</p>	<p>1           BY MR. JAMES: 2       Q. Dr. Moorman, before the quick break -- I'll 3       just restate the question. 4       A. Okay. 5       Q. So what do you base your opinions on with 6       regard to fibrous talc? 7       A. Okay. My opinion, I guess, is -- again, it's 8       always been based on the constituents of the talcum 9       powder products. And so maybe clarifying based on 10      maybe further reading on the constituents of, like, 11      asbestiform talc, that this again contributes to the 12      biological plausibility of it, that this is another 13      potential constituent of the talcum powder product 14      that could contribute to ovarian cancer risk. 15      Q. So one component of your opinion is that 16      there is fibrous talc in talcum powder products; 17      correct? 18      A. Yes. 19      Q. Okay. And given that that is a new opinion, 20     I am attempting to source the bases for that opinion. 21      Are the opinions that you have about the 22     presence of fibrous talc in talcum powder products 23     based upon the same materials that you rely on for 24     your opinions about the presence of asbestos in talcum 25     powder products?</p>

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<p>1 MS. PARFITT: Objection. Form. As far 2 as a new opinion. 3 THE WITNESS: I'm sorry, let me read 4 that. 5 So my opinions about the presence of fibrous 6 talc in talcum powder products is based on some of the 7 same materials that have done analyses of talcum 8 powder products, yeah. 9 BY MR. JAMES: 10 Q. Would that include the Longo -- Dr. Longo 11 litigation testing? 12 A. I believe that he did make some mention of 13 that in his report, yes. 14 Q. And other -- would that include other 15 litigation reports that you reviewed? 16 MS. PARFITT: Objection. Form. 17 THE WITNESS: I'm -- precisely where 18 the information came from, that there is fibrous talc 19 in talcum powder products, I -- I don't recall exactly 20 where -- where I gleaned that information. 21 BY MR. JAMES: 22 Q. And did you -- did you ask counsel if there 23 was any information provided by Johnson &amp; Johnson in 24 the talc litigation rebutting the claim that there's 25 fibrous talc present in the products?</p>	<p>1 BY MR. JAMES: 2 Q. Would you defer to others with regard to the 3 question of whether heavy metals are in the talcum 4 powder products? 5 A. I -- by deferring to others, okay, I clearly 6 do not do the analyses of those -- of those -- those 7 types of analyses myself, so I am relying on a report. 8 In this case, it was a report done by Dr. Crowley. 9 Q. Just to clarify, and Ms. Parfitt can correct 10 me if I'm wrong, but when you refer to Dr. Crowley's 11 report, are you referring to Dr. Crowley's report 12 about fragrances? 13 A. And I believe that it was not just 14 fragrances, but it was a number of substances that he 15 analyzed in that -- that he addressed in his analysis. 16 Q. Did you do any independent searching for 17 materials or scientific literature on the allegation 18 that heavy metals in cosmetic talc powders cause 19 ovarian cancer? 20 MS. PARFITT: Objection. 21 THE WITNESS: Okay. I'm reading your 22 question again. 23 No. I -- the -- what I looked at in regards 24 to heavy metals -- again, we have this report 25 indicating that these can be found in some talcum</p>
<p>1 MS. PARFITT: Objection. Form. 2 THE WITNESS: No, I did not 3 specifically ask them for that information. 4 BY MR. JAMES: 5 Q. Have you relied on any epidemiology 6 substantiating a claim that fibrous talc is 7 carcinogenic? 8 A. I am not aware of any epidemiologic 9 literature that specifically addressed that question. 10 Q. Turning to your opinions on heavy metals, 11 Dr. Moorman, you have opined in your report about 12 chromium, nickel, and cobalt; correct? 13 A. Yes, I have. 14 Q. Yet your opinions in the MDL report about the 15 alleged presence of chromium, nickel, and cobalt in 16 talcum powder products is new in the sense that you 17 did not express that opinion in the Ingham case; 18 correct? 19 MS. PARFITT: Objection. Misstates her 20 testimony -- our testimony. 21 THE WITNESS: I think the gist of my 22 opinions are based on talcum powder products and 23 whatever constituents are in there; so talc, asbestos, 24 any fragrances or other contaminants that may be in 25 there. So it's based on the product.</p>	<p>1 powder products, and then again we have data 2 indicating that these heavy metals can cause certain 3 types of cancer. 4 So it contributes to the biological 5 plausibility that there are substances in the talcum 6 powder products that could lead to cancer. 7 BY MR. JAMES: 8 Q. With regard to opinions about the presence of 9 heavy metals in talcum powder products, did you ask to 10 see any information or materials presented in the tale 11 litigation by Johnson &amp; Johnson as to that claim? 12 A. No, I did not. 13 Q. Did you do any separate analysis of the 14 talcum powder products to determine the presence of 15 heavy metals in these products? 16 A. I did not do any analyses of talcum powder 17 products. 18 Q. Do you have any knowledge concerning the 19 testing that is performed by Johnson &amp; Johnson and 20 third parties with respect to constituent elements in 21 the products? 22 A. No. This is outside my area of expertise. 23 Q. Do you have any information about allowable 24 levels of constituent elements in the talcum powder 25 products?</p>

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<p style="text-align: center;">Page 122</p> <p>1 A. No, I do not. 2 Q. Do you have any basis to believe that if 3 talcum powder products exceeded allowable levels for 4 constituent elements, that those products went to 5 market? 6 MS. PARFITT: Objection. Form. 7 THE WITNESS: No, I -- I don't have any 8 information in that regard. 9 BY MR. JAMES: 10 Q. Okay. Turning to -- with -- to your opinion 11 on -- strike that. 12 Do you hold the independent opinion that 13 cadmium, chromium, and cobalt cause ovarian cancer? 14 MS. PARFITT: Objection. Form. 15 THE WITNESS: I do -- I am not aware of 16 papers that have directly addressed those metals in 17 relation to ovarian cancer risk. I am basing it more 18 on the conclusions from IARC that they do have 19 carcinogenic potential. 20 BY MR. JAMES: 21 Q. And is the same true for nickel? 22 A. Yes. 23 Q. With regard to the alleged carcinogenicity of 24 the constituent metal elements that you've identified 25 in your report, did you consider anything other than</p>	<p style="text-align: center;">Page 124</p> <p>1 THE WITNESS: I -- I think that we do 2 not have the data to specifically address that 3 question specifically in regard to ovarian cancer. 4 BY MR. JAMES: 5 Q. With regard to the opinions you've expressed 6 as to fragrances, is the sole basis of those opinions 7 the value of work? 8 A. That's the only document that I referred to. 9 Q. And you understand -- 10 MR. JAMES: Ms. Parfitt, is it 11 Dr. Crowley? 12 MS. PARFITT: Dr. Crowley. 13 BY MR. JAMES: 14 Q. Okay. Do you understand that Dr. Crowley is 15 a paid expert in this litigation for the Plaintiffs? 16 A. I do understand that. 17 Q. Do you know if Dr. Crowley conducted any sort 18 of risk assessment with regard to his calculations? 19 A. I do not know that. 20 Q. If Johnson &amp; Johnson talcum powder products 21 were not contaminated with asbestos, if you would 22 accept that proposition from me, would you still hold 23 the opinion that talcum powder products are a general 24 cause of ovarian cancer? 25 MS. PARFITT: Objection. Form.</p>
<p style="text-align: center;">Page 123</p> <p>1 the IARC monograph that you cited? 2 A. No, I did not. 3 Q. Did the IARC monograph that you cited include 4 any assertion that the presence of these metals in 5 talcum powders rendered those powders carcinogenic? 6 A. I do not believe so. 7 Q. Did the IARC 2010 monograph on talc include 8 any assertion that the presence of heavy metals in 9 those powders supports the 2B conclusion? 10 MS. PARFITT: Objection. Form. 11 THE WITNESS: I don't recall any 12 mention of heavy metals in that monograph. 13 BY MR. JAMES: 14 Q. Returning back to fragrances, in your MDL 15 report, you refer to a report by Crowley. Did I say 16 that right? 17 A. I've never met the man, so I don't know how 18 it's pronounced, but yes, that's what I said. 19 Q. And that's the report you identified for the 20 basis of your fragrance opinions; correct? 21 A. Yes. 22 Q. Do you have -- do you hold the independent 23 opinion that the fragrance ingredients in talcum 24 powder products renders those products carcinogenic? 25 MS. PARFITT: Objection.</p>	<p style="text-align: center;">Page 125</p> <p>1 You can answer. 2 THE WITNESS: Okay. The opinion 3 I formed is based primarily on the epidemiologic data; 4 and the epidemiologic data is based on talcum powder 5 products, whatever is contained in them. And in study 6 after study, we see increased risk for ovarian cancer. 7 So whatever is contained in the talcum powder products 8 leads me to conclude that it can cause ovarian cancer. 9 BY MR. JAMES: 10 Q. And just to make sure that I understand your 11 answer -- 12 A. Yes. 13 Q. -- if the talcum powder products were not 14 contaminated with asbestos, would you still reach the 15 general cause opinion that you've offered in this 16 case? 17 MS. PARFITT: Objection. Form. 18 THE WITNESS: I am -- I think that I've 19 answered the question that it's based on talcum powder 20 products, whatever is contained in them -- in them. If 21 it is shown that there is no asbestos, that doesn't 22 change the fact that these dozens of epidemiologic 23 studies have led to the conclusion of increased risk. 24 BY MR. JAMES: 25 Q. And does that same answer hold true if</p>

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<p style="text-align: center;">Page 126</p> <p>1 I asked you the same question with respect to heavy 2 metals, fibrous talc, and fragrance ingredients? 3 MS. PARFITT: Objection. Form. 4 THE WITNESS: Yes. I am basing my 5 opinion on the use of talcum powder products and 6 whatever are -- whatever their constituents are. 7 BY MR. JAMES: 8 Q. As a professional epidemiologist -- is that a 9 fair way to say it? 10 A. Yes. 11 Q. Okay. As a professional epidemiologist, part 12 of your day-in, day-out work is to look at literature 13 on purported associations and make conclusions about 14 the strengths or weaknesses of that literature; 15 correct? 16 A. Yes. 17 Q. And you have done that before you were 18 brought into the talc litigation on a variety of 19 different exposures or other things evaluated for 20 associations; correct? 21 A. That is correct. 22 Q. And setting aside the issue of talcum powder 23 products, have you ever before, in assessing other 24 exposures or other associations, relied upon company 25 documents to reach your conclusions?</p>	<p style="text-align: center;">Page 128</p> <p>1 BY MR. JAMES: 2 Q. On page 4 of your -- actually, it's page 5 of 3 your report, Dr. Moorman. You refer on the top of 4 that page, in the first full paragraph, to the 5 Schildkraut 2016 study; correct? 6 A. First paragraph? Yes, that is correct. 7 Q. And you say in that paragraph -- and if 8 you're looking at the same paragraph as I am -- you 9 say there that (as read): 10 "This was the first study of talc 11 use and ovarian cancer focused 12 exclusively on African-American 13 women." 14 Correct? 15 A. Yes, I do. 16 Q. And to be clear, Dr. Moorman, that study did 17 not look exclusively at talc use, did it? 18 A. No. The purpose of the African American 19 cancer epidemiology study was to look at the 20 epidemiology of ovarian cancer in African American 21 broadly. So we've looked at a number of exposures. 22 Q. And specific to the issue of powder, the 23 Schildkraut 2016 study -- and I guess is the 24 underlying study, the AACES -- looks at body powder, 25 not talc per se; correct?</p>
<p style="text-align: center;">Page 127</p> <p>1 A. I -- I'm trying to think. 2 We have -- my colleagues and I have 3 published systematic reviews of oral contraceptive use 4 and ovarian cancer and other cancer risk. And as part 5 of that procedure -- this was through the Agency on 6 Healthcare Research and Quality, or AHRQ -- and as 7 part of that procedure trying to ensure that we have 8 all relevant documents, I believe that there was an 9 effort to see if there were any company document 10 studies that would be relevant to that systematic 11 review. 12 Q. What about any internal company testing 13 documents? Have you ever looked at any internal 14 company testing documents in assessing any association 15 that you've considered throughout your career? 16 A. No -- 17 MS. PARFITT: Objection. 18 THE WITNESS: -- I did not. 19 BY MR. JAMES: 20 Q. Have you ever considered any paid litigation 21 expert reports in assessing any other association that 22 you've looked at through your career? 23 MS. PARFITT: Objection. Form. 24 THE WITNESS: I -- I can't think of 25 another instance where I have done that.</p>	<p style="text-align: center;">Page 129</p> <p>1 A. That was how the question was asked in the 2 questionnaire, yes. 3 Q. Okay. And so the statements in your report 4 that state that the study looked at talc powder should 5 be clarified; correct? 6 MS. PARFITT: Objection. Form. 7 THE WITNESS: I think to be absolutely 8 precise, we should have -- I should have said body 9 powder. But based on other literature, most body 10 powder use is talcum powder product use. So I agree, 11 I could have been more precise in my language there. 12 BY MR. JAMES: 13 Q. And you understand body powders are made up 14 of a variety of constituents; correct? 15 A. Yes. 16 Q. There are baby powders that are made of 17 things other than talc; correct? 18 A. I believe so, that there are cornstarch 19 powders as well. 20 Q. And there are deodorizing powders that are 21 made of things other than talc; correct? 22 A. I believe so, yes. 23 Q. And you know cornstarch, if there's a baby 24 powder made of cornstarch, that product does not 25 contain talc; correct?</p>

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1 A. Yes. 2 Q. Or -- I should clarify. 3 If the version of the baby powder one is 4 purchasing is labeled as a cornstarch product, it's 5 cornstarch, not talc; correct? 6 A. That is correct. 7 Q. So the study participants in this study are 8 not limited to talc users; correct? 9 A. That is correct. 10 Q. You also say in the report, in conjunction 11 with these statements, that the study found a high 12 prevalence of talc use; correct? 13 A. Yes. 14 Q. And we're looking at the same paragraph, 15 Dr. Moorman. And, again, to be clear, the study 16 didn't find that. The study, instead, found a high 17 prevalence of powder use; correct? 18 MS. PARFITT: Objection. 19 THE WITNESS: Again, once I -- as I 20 acknowledged earlier, I could have been more precise 21 in the language, that it's -- I think that it -- based 22 on our knowledge of the sales and other studies that 23 have specifically reported on the types of powder use, 24 the majority of the powder use would have been talc. 25	1 anywhere else in your report, that for any genital use 2 of body powder with an interview date before 2014, the 3 results were not statistically significant; correct? 4 MS. PARFITT: Objection. 5 THE WITNESS: If you would give me just 6 a moment to look through the report, I'd like to 7 verify how I addressed that. 8 I -- on page 23, I acknowledged that there 9 was an attenuation of the odds ratio when comparing 10 the women who were interviewed in the later time frame 11 than in the earlier time frame. 12 BY MR. JAMES: 13 Q. Okay. And I'm looking at where you're 14 looking, I believe, and it's the middle paragraph on 15 page 23; correct? 16 A. That is correct. 17 Q. And there you say (as read): 18 "The fact that the association was 19 attenuated but not eliminated when 20 considering the full study 21 population suggested that the 22 association was not due entirely 23 to recall bias." 24 Did I read that correctly? 25 A. That is correct.	
1 BY MR. JAMES: 2 Q. You're not offering opinions on the MDL 3 litigation about cornstarch, are you? 4 A. No, I am not. 5 Q. And you understand that the body of 6 epidemiological literature that has developed over the 7 last several decades has included findings looking at 8 talc powders versus cornstarch powders versus non-talc 9 powders; correct? 10 A. Some studies, yes, have looked at the 11 different powders. 12 Q. And your -- the Schildkraut 2016 study didn't 13 undertake the effort to make that distinction, did it? 14 MS. PARFITT: Objection. 15 THE WITNESS: I've already acknowledged 16 that the question in the questionnaire just asked 17 about body powder use. 18 BY MR. JAMES: 19 Q. You state that this study found a 20 statistically significant increase for risk among talc 21 users; right? 22 A. Yes. We're in the same paragraph. Right? 23 Q. Yes, Doctor. Thank you. 24 A. Yes. 25 Q. But you did not know in this paragraph, or	1 Q. Okay. And, again, here you do not report -- 2 let me start over. 3 The association for talc users before 2014 4 date was not statistically significant; correct? 5 MS. PARFITT: Objection. Form. 6 THE WITNESS: Yes. The -- the odds 7 ratio was elevated but not statistically significant. 8 BY MR. JAMES: 9 Q. And you don't call that out in your report, 10 do you? 11 MS. PARFITT: Objection. Form. 12 THE WITNESS: No. It's as it's 13 written. 14 BY MR. JAMES: 15 Q. And as it's written, it says, "The 16 association was attenuated but not eliminated." 17 That's the wording you used; correct? 18 A. Yes. 19 Q. Okay. But if the association is not 20 statistically significant, would you still refer to 21 that association as attenuated and not eliminated? Is 22 that the proper way to refer to it? 23 A. If the association was eliminated, if there 24 was no association, we would have had an odds ratio of 25 1. We have an odds ratio of 1.19.	

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<p>1        It is -- I acknowledge that it was not 2        statistically significant, but it was not eliminated. 3        It was attenuated. I think that my statement in my 4        report is accurate.</p> <p>5        Q. So for any epidemiologic study that has an 6        odds ratio that crosses 1 but is reported to be above 7        1 with the odds ratio crossing 1 -- do you understand 8        what I'm asking? -- would you refer to that as an 9        association, an null association, a not statistically 10      significant association? What terminology would you 11      use?</p> <p>12      A. I would refer to it as a non-statistically 13      significant association. If the data show 19 percent 14      increased risk, it's not statistically significant.</p> <p>15      Q. And by saying that, what you're saying is 16      that the odds ratio that -- could fall within any -- 17      within the range identified; correct?</p> <p>18      MS. PARFITT: Objection. Form.</p> <p>19      THE WITNESS: The -- when you report a 20      95 percent confidence interval, it gives a range of 21      values which is statistically compatible with what you 22      found. Like, if the study were repeated again with 23      other samples, you might find an odds ratio that was a 24      bit higher or a bit lower.</p> <p>25      But I think that it's very important to make</p>	<p>1        with respect to talc? 2        A. If you -- I know you have it right in front 3        of you. So if I could see it, so I could report it 4        accurately. I think I know what I found, but that was 5        paper that was done ten years ago.</p> <p>6        MR. JAMES: Okay. And, Dr. Moorman, 7        I'm marking as Exhibit 16 a paper entitled "Ovarian 8        Cancer Risk Factors in African-American and White 9        Women."</p> <p>10      I'm handing you two copies to pass along. 11      (Exhibit No. 16 was marked for identification.)</p> <p>12      THE WITNESS: Okay. So we reported on 13      talc use for white women and for African-American 14      women. Neither association was statistically 15      significant, again, particularly for the African 16      American, which can be a reflection of the relatively 17      small sample size for African-American women. It was 18      an odds ratio of 1.19; in the white women, it was 19      1.04.</p> <p>20      BY MR. JAMES:</p> <p>21      Q. And those two associations reported in your 22      paper in 2009 are not reported in your report, are 23      they?</p> <p>24      A. I did not -- I do not believe that I reported 25      those specific odds ratios. Data from the</p>
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<p>1        the distinction between no association and no 2        statistically significant association.</p> <p>3        BY MR. JAMES:</p> <p>4        Q. But you didn't make that distinction in your 5        report?</p> <p>6        MS. PARFITT: Objection.</p> <p>7        THE WITNESS: You've asked the 8        question, and I've acknowledged that I did not address 9        statistical significance in that sentence.</p> <p>10      BY MR. JAMES:</p> <p>11      Q. On the same page of your report, if we go 12      back to page 5, you refer to a 2009 paper entitled 13      "Ovarian Cancer Risk Factors in African-American and 14      White Women"; correct?</p> <p>15      A. Let me get to page 5. Which paragraph are 16      you --</p> <p>17      Q. So it's the second paragraph. In fact, you 18      refer to it here as the North Carolina Ovarian Cancer 19      Study; correct?</p> <p>20      A. Right. Right. Okay. Yes.</p> <p>21      Q. My apologies. I -- with -- in conjunction 22      that study, you published a paper in 2009; correct?</p> <p>23      A. Right. Talc was not the primary focus of it, 24      but it was one of the risk factors that we looked at.</p> <p>25      Q. And do you recall the results of that study</p>	<p>1        North Carolina ovarian cancer study was included in 2        the meta-analyses that I did describe.</p> <p>3        Q. And with respect to odds ratio of 1.04 for 4        white women -- do you see that? Are we looking at the 5        same table together? Table 2?</p> <p>6        A. Yes.</p> <p>7        Q. Okay. And the 1.04 association there is very 8        close to the null; correct?</p> <p>9        MS. PARFITT: Objection. Form.</p> <p>10      THE WITNESS: Yes, it's close to 1.</p> <p>11      BY MR. JAMES:</p> <p>12      Q. And it has the odds ratio that crosses 1; 13      correct? The odds ratio range? Is that a fair way to 14      say it?</p> <p>15      A. No.</p> <p>16      Q. Okay. Tell me how to say it.</p> <p>17      A. The 95 percent confidence interval --</p> <p>18      Q. That's right.</p> <p>19      A. -- does cross 1.</p> <p>20      Q. So we have the 1.04 with the CI crossing 1; 21      correct?</p> <p>22      A. Yes.</p> <p>23      Q. Would you refer to the 1.04 as an association 24      that is attenuated but not eliminated?</p> <p>25      A. Well, first of all, I would not refer to it</p>

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<p>1 as attenuated because that implies that there's a 2 comparison with something else; and in the other 3 paper, it was comparing the full study population to a 4 subset. So I would never refer to this as attenuated. 5 This is what was shown in this particular 6 study. It's an odds ratio of 1.04. It's very close 7 to 1. 8 Q. Fair enough. And fair point about 9 attenuated. 10 Would you refer to a 1.04 with a CI that 11 crosses 1 as a positive association, as professional 12 epidemiologist? 13 A. When I would look at that, I would say that 14 there's little evidence of an association, very close 15 to 1, in this study population -- in this study. 16 Q. You've also published another study coming 17 out of the North Carolina Ovarian Cancer Study; 18 correct? 19 A. I have published quite a few papers that came 20 out of the North Carolina Ovarian Cancer Study. 21 Q. And do you recall publishing a paper in 2010 22 entitled "Primary peritoneal and ovarian cancers: An 23 epidemiologic comparative analysis"?" 24 A. I was a coauthor on that paper, yes. 25 Q. Okay. And is this paper discussed in your</p>	<p>1 A. Yes, that's what's reported there based on a 2 quite small sample size. 3 Q. And, again, both of these associations are 4 not statistically significant; correct? 5 A. That is correct. 6 Q. And also I see over here to the left, the 7 category listed here is labeled "Talc use"; correct? 8 A. Yes. 9 Q. So this paper looks specifically at talcum 10 powders; is that right? 11 A. I -- I believe that, in that questionnaire, 12 it was specifically asking about talc use. 13 Q. And, again, the results of this study are not 14 reported in your report; correct? 15 A. As I said before when you asked that, the 16 data from the North Carolina Ovarian Cancer are 17 included in the Terry paper that combined data from 18 multiple studies. 19 Q. On page 11 of your report, Dr. Moorman, you 20 state, in the -- I guess it's the second paragraph 21 down from the top, starting with the "it is important" 22 language. 23 A. Mm-hmm. 24 Q. Okay. And if you look down to the second 25 sentence, you note there that (as read):</p>
<p style="text-align: center;">Page 139</p> <p>1 expert report at all? 2 A. I don't think that I specifically addressed 3 it. Again, the data from the North Carolina Ovarian 4 Cancer Study was included in the Terry analysis -- 5 MR. JAMES: And I've marked the study 6 that I just referenced as Exhibit No. 17. I'm going 7 to hand you two copies. 8 (Exhibit No. 17 was marked for identification.) 9 BY MR. JAMES: 10 Q. And, Dr. Moorman, if we turn to page 995, 11 there is a Table 2 continued onto page. And if you 12 look down, this paper does report odds ratios for talc 13 use; correct? 14 A. Yes, it does. 15 Q. And for -- if you look over to the right, all 16 the way to the right, you see that you've reported a 17 1.15 not statistically significant association for 18 serous invasive ovarian cancer; correct? 19 A. That's correct. 20 Q. And that's with a CI that crosses 1; correct? 21 A. That is correct. 22 Q. And if you look to the left of that, you've 23 reported here a .76 odds ratio for the relationship 24 between talc use and primary peritoneal cancer; 25 correct?</p>	<p style="text-align: center;">Page 141</p> <p>1 "It is not unusual for scientists 2 and epidemiologists to weigh the 3 Hill factors differently in 4 reaching the conclusion." 5 Correct? 6 A. Yes, I state that. 7 Q. And then in the next sentence, you go on to 8 provide examples of that; correct? 9 A. Correct. 10 Q. And you note there (as read): 11 "The evidence that cigarette 12 smoking causes lung cancer or 13 asbestos causes lung disease." 14 Right? 15 A. Yes. 16 Q. And those are the examples that you're 17 providing to support the prior sentence that 18 epidemiologists can sometimes weigh things 19 differently; is that right? 20 A. I give that as an example, yes. 21 Q. For the two examples that you've provided 22 there, has the medical and scientific community 23 accepted that smoking causes lung cancer and that 24 asbestos causes lung disease? 25 A. I think that, yes, that is true. Now, the</p>

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<p>1 point that I am making here is that some scientists, 2 especially in the early years when the data were 3 accumulating related to smoking and lung cancer, some 4 people weighted the evidence differently. 5 For example, some of the studies looked at 6 whether people reported whether or not they inhaled or 7 not, and some funny results were observed there. And 8 some scientists thought that was really important 9 evidence against an association, whereas others 10 thought it was -- it was not to be regarded very 11 seriously. 12 Q. Do you regard the body of evidence on smoking 13 and asbestos to be equivalent to the body of evidence 14 on talc and ovarian cancer with regard to evaluating 15 cause? 16 MS. PARFITT: Objection. 17 THE WITNESS: Could you clarify what 18 you mean by "equivalent"? 19 BY MR. JAMES: 20 Q. Sure. By providing these two examples 21 here -- first, the smoking example, and second, the 22 asbestos example -- are you suggesting that the body 23 of evidence to support the causal conclusion with 24 respect to asbestos and smoking is qualitatively 25 and/or quantitatively the same or similar to the body</p>	<p>1 that the criteria that I applied to come to a 2 conclusion of causality are based on strong data. 3 MR. JAMES: Object to the nonresponsive 4 answer. 5 THE WITNESS: Maybe you can clarify 6 your question, because I'm -- maybe I didn't 7 understand what you were asking. 8 BY MR. JAMES: 9 Q. Sure. Dr. Moorman, you provided these 10 examples in your report; correct? 11 A. These are examples to make the point that, as 12 we have said here, that some people weigh different 13 parts of the evidence a bit differently. 14 Q. And so if someone who's reading your report 15 gets an impression that you are equating the body of 16 scientific and medical evidence on the issue of 17 smoking and lung cancer to the body of scientific 18 evidence on talc and ovarian cancer, then they would 19 be getting the wrong impression; is that correct? 20 MS. PARFITT: Objection. 21 THE WITNESS: I don't think that I am 22 equating the evidence for the two. I am -- equating 23 the evidence for the two types of cancer. I was using 24 that to illustrate -- to support the sentence right 25 before that, is that, when we look at these Hill</p>
<p style="text-align: center;">Page 143</p> <p>1 of evidence we have in 2019 as to talc and ovarian 2 cancer? 3 A. To say that it is the same is -- I don't know 4 that you can say that it's the same. It's different 5 studies done in different time frames. The assessment 6 of the exposure is a bit different. 7 So there are similarities and, you know, the 8 criteria that I applied to come to my conclusion of 9 causality, I think, are similar to what has been 10 applied to smoking and lung cancer. But the data are 11 different. There are different studies, different 12 time frame. 13 Q. Would you say that the data on smoking and 14 lung cancer is stronger than the data on talc and 15 ovarian cancer -- 16 MS. PARFITT: Objection. 17 BY MR. JAMES: 18 Q. -- to support a causal conclusion? 19 A. I'm not sure why one would make such a 20 comparison of what is stronger or not. I mean, 21 clearly, we know that smoking and lung cancer is one 22 of the strongest associations between an exposure and 23 a cancer. 24 The odds ratio that is associated with talc 25 use and ovarian cancer is not as large, but I think</p>	<p style="text-align: center;">Page 145</p> <p>1 factors, scientists can look at them and they might 2 weight one more heavily than another. 3 BY MR. JAMES: 4 Q. And you -- you believe that the medical 5 community accepts that smoking is a cause of lung 6 cancer; correct? 7 A. Yes, in general, I think that's true. 8 Q. Does the medical community believe that talc 9 is a cause of ovarian cancer? Is that the medical 10 community's consensus? 11 MS. PARFITT: Objection. Form. 12 THE WITNESS: I'm not sure who you mean 13 by "the medical community." I -- I think that there 14 are certainly -- there's plenty of evidence to support 15 my conclusion. We have evidence very recently from 16 Health Canada that they have come to the same 17 conclusion. So... 18 BY MR. JAMES: 19 Q. Did Health Canada come to a causal 20 conclusion? 21 A. That was my reading of their document. 22 Q. When's the last time you've read the 23 documents from Health Canada? 24 A. Probably within the last few days. 25 Q. Did Plaintiffs' counsel provide those to you?</p>

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<p>1       A. Yes, they did. 2       Q. Okay. And your recollection is that the 3       Health Canada documents state that talc is a cause of 4       ovarian cancer? 5       A. I definitely recall them using the "causal" 6       language in the document. If -- we can pull it up if 7       we want to confirm the precise language. 8       Q. Other than identifying Health Canada, which 9       you've just done, are there any other bodies or 10      scientific organizations or medical organizations that 11      you can cite to that have concluded that talc is a 12      cause of ovarian cancer? 13      A. We've already discussed the IARC conclusion 14      that it's possibly carcinogenic. 15      Q. And so, again, I'm asking you about -- sorry. 16      A. Sorry. Go ahead. 17      Q. Sorry. My apologies. 18      A. Okay. 19      Q. Were you done? 20      A. I'm finished. 21      Q. So my question, I think, is different than 22      that the one you're answering. 23      A. Yeah. 24      Q. So I'm asking you if you're aware of any 25      scientific or medical bodies that have concluded that</p>	<p>1       ovarian cancer. So... 2       Q. And when you say talc -- sorry. I think 3       you're dropping off a bit, and so I'm jumping in too 4       quickly. And I apologize. 5       Are you done? 6       A. I'm finished, yes. 7       Q. You're referring there to a journal article; 8       is that right? 9       A. It was a summary of -- I think it was 10      something like "What's new in ovarian cancer." It was 11      published maybe -- 12      Q. And do you believe the article that you're 13      referring to represents the consensus view of the 14      medical community? 15      MS. PARFITT: Objection. Form. 16      THE WITNESS: I don't know that it does 17      or not. It wasn't presented as the official opinion 18      of that organization. 19      BY MR. JAMES: 20      Q. And the article that you were mentioning, you 21      said increased risk -- or increased association. Is 22      that what you said? I don't have the realtime in 23      front of me right now. 24      A. I don't have it in front of me either. 25      Q. Okay.</p>
<p style="text-align: center;">Page 147</p> <p>1       talc is a general cause of ovarian cancer. 2       A. I'm not aware of a -- I'm not aware of a 3       statement that has been published, other than the ones 4       that I mentioned. 5       Q. And by others that you mentioned, you're 6       referring to the Health Canada document? 7       A. Yes. 8       Q. Okay. And we will turn back to that, and 9       that way we can have a copy in front of us both. 10      Okay? 11      A. Okay. 12      Q. With regard to IARC, again, you understand 13      that they have concluded "possible." Correct? 14      A. They conclude possible at that point in time, 15      which was 2010. 16      Q. Have you ever looked to see if any medical 17      organizations that represent the gynecologic oncology 18      community have concluded that talc is a cause of 19      ovarian cancer? 20      A. I am aware that, in a recent article in 21      Obstetrics and Gynecology, which is one of the leading 22      journals in the field, they were summarizing some of 23      the information that is new. They were describing the 24      Penninkilampi meta-analysis, and their conclusion was 25      that talc is associated with increased risk for</p>	<p style="text-align: center;">Page 149</p> <p>1       A. I am recalling something like there is -- 2       I don't know what the phrasing was. It's associated 3       with increased risk or there is an increased risk of 4       ovarian cancer with talc use. 5       Q. Do you recall if that article made a 6       statement on causality? 7       A. I don't recall. 8       Q. Have you consulted information provided by 9       the ACOG or the SGO with respect to the talc ovarian 10      cancer hypothesis? 11      MS. PARFITT: Objection. 12      THE WITNESS: I don't recall if I have 13      or not. 14      BY MR. JAMES: 15      Q. Would you be interested to know the positions 16      by the leading organizations for the gynecologic 17      oncology community on this issue? 18      MS. PARFITT: Objection. Form. 19      THE WITNESS: Of course. Any 20      information is important to know. 21      MR. JAMES: I'm going to mark as 22      Exhibit No. 18 a copy of a statement issued by ACOG on 23      talc use and ovarian cancer. 24      (Exhibit No. 18 was marked for identification.) 25      MR. JAMES: I'm handing you two copies</p>

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<p>1 again. 2 BY MR. JAMES: 3 Q. Dr. Moorman, have you seen this statement 4 before? 5 A. I don't recall if I have or not. I might 6 have. 7 Q. Do you see at the bottom of the statement -- 8 it's a single paragraph -- the statement concludes 9 with the quote (as read): 10 "There was no medical consensus 11 that talcum powder causes ovarian 12 cancer." 13 Do you see where I was reading? 14 A. I do see that. 15 Q. Do you disagree with that statement? 16 A. Again, going back to the recent conclusion 17 from Health Canada, I think that that is some evidence 18 of medical consensus. And I do acknowledge that 19 this -- what is said here, that -- yeah, I acknowledge 20 what they have written here, yes. 21 Q. Have you, in preparing your report for this 22 litigation, have you taken a look to see what the 23 National Cancer Institute has said about the purported 24 association between talc and ovarian cancer? 25 A. Yes, I have.</p>	<p>1 inadequate evidence of an association? 2 A. Yes. 3 And if I may address this document -- 4 Q. If you could give me just one second, and 5 then -- 6 A. Okay. 7 Q. -- I'll let you finish, if you don't mind. 8 A. Okay. 9 Q. Have you considered this before? 10 A. Have I -- 11 MS. PARFITT: Objection. 12 BY MR. JAMES: 13 Q. Yes. 14 A. -- considered it? 15 Q. In forming your opinions in this case? 16 A. Yes. 17 Q. Okay. It's not cited or discussed in your 18 report, is it? 19 A. I don't know that I have, but again, it's one 20 of the documents that I have -- I have seen in my -- 21 in my work. 22 Q. And so within your report, you do discuss 23 findings of IARC; correct? 24 A. Yes. 25 Q. But you don't discuss findings of the NCI; is</p>
<p>1 Q. Okay. And what do they say? 2 A. I -- when you are -- I think you are 3 referring to the PDQ -- 4 Q. Yes. 5 A. -- from NCI. 6 Q. Would you like a copy of it? 7 A. I would very much like a copy. 8 Q. Fair enough. 9 Okay. Dr. Moorman, I'm going to hand you a 10 copy of the NCI PDQ on "Ovarian, Fallopian Tube, and 11 Primary Peritoneal Cancer, Health Professional 12 Version." 13 (Exhibit No. 19 was marked for identification.) 14 THE WITNESS: Thank you. 15 BY MR. JAMES: 16 Q. And if you turn to -- this is not paginated, 17 unfortunately -- have you gotten there already? Or 18 I can count for us. I flipped seven times to get 19 there. Looks like you beat me to it. 20 A. Okay. 21 Q. And do you see here that is this the PDQ you 22 were thinking of, Dr. Moorman? 23 A. Yes. 24 Q. Okay. And in here, do you see that the NCI 25 has listed perineal talc exposure as a factor with</p>	<p>1 that right? 2 A. I don't think that I specifically addressed 3 it. 4 Q. Is that because it conflicts with your 5 litigation opinion? 6 MS. PARFITT: Objection. 7 THE WITNESS: No. 8 May I ask -- 9 BY MR. JAMES: 10 Q. And, Dr. Moorman, you said you wanted to 11 comment, and now is fine. 12 A. Let's see. I wanted -- when did you print 13 out this version of the PDQ, if I may ask you? 14 Q. So do you understand that this is a -- this 15 is a -- well, if you turn to the back page of the copy 16 that I handed you -- 17 A. Mm-hmm. 18 Q. -- the very back -- 19 A. Okay. 20 Q. -- it says "Updated: December 21, 2018." 21 A. Okay. 22 Q. All the way on the back page. 23 A. Yeah. 24 Q. Got it. 25 A. Okay. One of the -- I have looked at this</p>

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<p>1 very recently, and on the online version, there were 2 some rather what I considered kind of interesting 3 conclusions that were made. I'm actually not seeing 4 it in this version here. But, for example, they -- 5 I'm sorry. I don't see it even mentioned here. 6         But on the online version, they had listed 7 DMPA -- depot medroxyprogesterone acetate -- as 8 something that there was adequate evidence of reduced 9 effect. And they were basing that -- there are very 10 few studies on that to begin with, and as they 11 summarized it, again, the last time I looked at it 12 online, they said it was inconsistent data, but they 13 still summarized that there was adequate evidence. 14         And then in regard to things like comparing 15 the evidence for something like breastfeeding, they 16 said (as read): 17             "Based on solid evidence, 18                 breastfeeding is associated with 19                 decreased risk of ovarian cancer." 20         If we compare the evidence to breastfeeding 21 to the evidence for talcum -- talc use, again, the 22 online version that I last looked at, it gave a little 23 bit more detail about the meta-analyses and so on. 24         So the meta-analyses for breastfeeding and 25 the meta-analyses for talc, there were a lot of</p>	<p>1 with the NCI? 2         A. Okay. Just looking at this, and it came 3 up -- it says "with inadequate evidence of an 4 association." 5         Did you say "adequate" or "inadequate"? 6         Q. I said "inadequate." 7         A. Okay. My judgment based on the evidence is 8 that there is adequate evidence. So I would disagree 9 with the NCI in the conclusion that they reached. 10        Q. With regard to your discussion that we've had 11 just now on the body of evidence to look at 12 breastfeeding and ovarian cancer risk -- 13        A. Yes. 14        Q. -- and this is a yes-or-no question -- did 15 you conduct a comprehensive review of the scientific 16 medical literature and evidence surrounding the 17 association between breastfeeding and ovarian cancer? 18        A. I did not do as comprehensive a review of 19 that literature as I did for the talc. 20        Q. And have you, in the course of your career, 21 ever looked comprehensively at the body of scientific 22 and medical evidence surrounding the association of 23 breastfeeding and ovarian cancer to the cell studies, 24 the plausibility, the dose-response, have you done all 25 of that with respect to breastfeeding and ovarian</p>
<p>1 similarities. There are roughly 30 studies addressing 2 each of them. For breastfeeding, it's about a 3 25 percent reduction in risk; for talc, about a 4 25 percent increased risk. 5         When you look at the overall number of 6 studies, roughly 90 percent of them support 7 breastfeeding -- in terms of just looking at the 8 direction of the effect -- about 90 percent of them 9 support that breastfeeding is associated with reduced 10 risk. When you look at the meta-analyses for talc, 11 about 90 percent of the studies have an odds ratio 12 greater than 1. 13         And so when we look at the overall body of 14 evidence, to me, I think it's comparable for 15 breastfeeding versus talc, but they conclude that the 16 evidence is adequate for breastfeeding but not 17 adequate for talc. And they don't really describe 18 their methodology for how they reach their 19 conclusions. 20         So it leaves me just a little bit baffled 21 about why is one adequate evidence and one inadequate 22 evidence. 23         Q. If the NCI's PDQ that's available on their 24 website as of today classifies talc as a factor with 25 inadequate evidence of an association, do you disagree</p>	<p>1 cancer? 2         A. I -- in the course of looking at ovarian 3 cancer, I have actually never written a paper that was 4 strictly focused on breastfeeding and ovarian cancer, 5 and that is typically where one would go through the 6 very comprehensive review. 7         I am familiar with much of the literature, 8 but the degree to which I reviewed the literature was 9 not in the same level of detail as I did the talc 10 literature. 11        Q. And do you know if the scientists at the NCI 12 who have commented on the association between 13 breastfeeding and ovarian cancer have conducted an 14 examination of the scientific and medical literature 15 that is more comprehensive, less comprehensive, or the 16 same that you've conducted? 17             MS. PARFITT: Objection to form. 18             THE WITNESS: They do not describe 19 their methodology, and so I can't say if it was more 20 or less comprehensive. 21             BY MR. JAMES: 22         Q. Okay. Dr. Moorman, on page 10 of your 23 report -- 24         A. Yes. 25         Q. -- you have the -- it's the third full</p>

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<p>1 paragraph down, and you make the statement that 2 meta-analyses are "considered to be some of the 3 strongest evidence for a causal association." 4 Do you see where I'm reading that? 5 A. Yes, I do. 6 Q. Okay. So that's -- so you've made that 7 comment. 8 And then further down, you say (as read): 9 "Data from meta-analyses are 10 particularly important for 11 evaluating exposure-disease 12 relationships such as talc and 13 ovarian cancer where the relative 14 risks for most individuals are 15 approximately 1.2 to 1.5." 16 Do you see where I've read that? 17 A. Yes, I do. 18 Q. Can you cite any published authority for the 19 statement that meta-analyses are considered to be some 20 of the strongest evidence for causal association? 21 A. I'm trying to think of whether it's a 22 published source. It's something that I have seen, 23 for example, multiple times in lectures and so on 24 where it will give a hierarchy of evidence. And 25 meta-analyses combining data from multiple studies is</p>	<p>1 data as reported. It could not correct the bias. 2 Q. So to the extent the meta-analyses are 3 collecting data from underlying studies that are 4 flawed by recall bias or confounding, those 5 inaccuracies carry over into the meta-analyses; 6 correct? 7 MS. PARFITT: Objection. 8 THE WITNESS: I would not characterize 9 it as "carry over." We recognize when we combine the 10 data from the meta-analyses, it is combining the 11 reported data. If there were biases that either led 12 to an underestimate or an overestimate of the relative 13 risk, they are not correcting that. 14 BY MR. JAMES: 15 Q. And do you caution the reader of your MDL 16 report about that limitation to meta-analyses anywhere 17 in your report? 18 A. I do not specifically make that caution, no. 19 Q. The meta-analyses that we have on the talc 20 ovarian cancer issue, they are progressed over a 21 period of time; correct? 22 A. That is correct. 23 Q. And we know that there's been two recent 24 meta-analyses. And all of the meta-analyses that have 25 been published on this association are in some ways</p>
<p style="text-align: center;">Page 159</p> <p>1 often put at kind of the top of the pyramid for making 2 causal assessments. 3 I want to say that maybe some of the 4 evidence-based medicine -- I know that there are 5 online summaries of evidence-based medicine that would 6 describe meta-analyses as kind of some of the 7 strongest evidence for causality. 8 Q. Meta-analyses combine data from underlying 9 studies; correct? 10 A. That is correct. 11 Q. Meta-analyses do not correct for bias and 12 confounding in underlying studies; correct? 13 A. The meta-analysis itself -- no. They combine 14 the data. They... 15 Q. And -- were you finished? 16 A. Yeah. They do not correct for the bias. 17 Q. Meta-analyses, for example, do not eliminate 18 recall bias if there is a recall bias problem in the 19 underlying studies; correct? 20 A. That is correct. Meta-analyses cannot do 21 that. 22 Q. And the meta-analyses studies that you 23 reviewed and discussed in your report all concede that 24 point, don't they? 25 A. They acknowledge that they are combining the</p>	<p style="text-align: center;">Page 161</p> <p>1 overlapping; correct? 2 MS. PARFITT: Objection to form. 3 THE WITNESS: The meta-analyses, their 4 intent is to combine all the published data. So, yes, 5 there is some overlap. More recent ones would have 6 included studies that had been published in prior 7 meta-analyses. 8 BY MR. JAMES: 9 Q. And recognizing that meta-analyses can differ 10 here and there for various -- various reasons, the 11 talc ovarian cancer meta-analyses generally pull data 12 from the same body of literature; is that fair? 13 A. Yes. 14 Q. And any suggestion that because you have 15 multiple meta-analyses reaching around the same odds 16 ratio and that that somehow demonstrates consistency, 17 isn't that a little bit misleading? 18 MS. PARFITT: Objection. Form. 19 THE WITNESS: I think that when we look 20 at it, when we see that, early on, you see some 21 meta-analyses were done, I want to say maybe in the 22 '90s, and then as more data are added in, you -- they 23 still settled in on roughly the same summary odds 24 ratio as even more data were accumulated. 25 Sometimes there is a concern that early on</p>

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<p>1 the studies with positive associations are published, 2 and then after -- as time goes on, other studies are 3 done that didn't find that association. So you would 4 expect that the summary odds ratio might become 5 attenuated as more studies were added. 6 And that's not the situation with the talc 7 literature. It's been pretty consistent from the 8 meta-analyses done in the 1990s to the 2000s to 2018. 9 BY MR. JAMES: 10 Q. And the 2018 meta-analyses that they are 11 grabbing in the studies from decades prior, they're 12 grabbing in the same studies that the 1990s 13 meta-analyses grabbed in; right? 14 MS. PARFITT: Objection. Form. 15 THE WITNESS: Yeah. The purpose is to 16 include all of the published data. So yes, of course. 17 BY MR. JAMES: 18 Q. And in your report, you place significant 19 emphasis -- if that's a fair word -- on meta-analyses. 20 Is that a fair way to describe it? 21 MS. PARFITT: Objection. 22 THE WITNESS: Yes, I think I -- I think 23 that's fair to characterize it that way. 24 BY MR. JAMES: 25 Q. You -- did you read the conclusions of all of</p>	<p>1 opportunity to ask questions afterwards. 2 A. Some of them did raise some concerns about 3 whether or not it could be a causal association. 4 Q. We're going to take a look at the studies 5 shortly as I grab these folders out. 6 Did you report in your report for the MDL 7 any of the cautionary language from these 8 meta-analyses about causation? 9 A. I -- in my report, when you look at some of 10 the cautionary language, they will refer to perhaps 11 concerns about recall bias or things like that. 12 In my report, I went through potential 13 biases and how I weighed that and whether I thought it 14 was an important concern in the studies that 15 contributed to the meta-analyses. 16 Q. Did you talk about any weaknesses or problems 17 with the meta-analyses themselves? 18 A. I don't believe I did in my report. 19 Q. And just -- okay. 20 MR. JAMES: I'm going to mark as 21 Exhibit No. 20 a meta-analysis that I think that 22 you've mentioned this morning. It's the Penninkilampi 23 study. 24 THE WITNESS: Yes. 25 MR. JAMES: I'm going to hand you two</p>
<p style="text-align: center;">Page 163</p> <p>1 the meta-analyses performed to date? 2 A. I did. 3 Q. Do any of the authors of the meta-analyses 4 performed to date conclude causation? 5 A. If I may take a minute to address the issue 6 of how causation is reported in the epidemiologic 7 literature. 8 Q. With all due respect, Doctor, if you could 9 just answer the question. 10 A. I think that they typically refer to, like, 11 increased risk. I don't know that any of them refer 12 to -- made the conclusion of -- I don't know that they 13 used the word "causal." 14 Q. In fact, many of the meta-analyses 15 specifically caution against a causal interpretation, 16 don't they? 17 MS. PARFITT: Objection. 18 THE WITNESS: Once again, if -- may 19 I take a moment to address how the word -- 20 BY MR. JAMES: 21 Q. Because my time is limited -- 22 A. Okay. 23 Q. -- I'm really going to have to respectfully 24 ask you to answer my question to the extent that 25 you're able, and then your counsel will have an</p>	<p style="text-align: center;">Page 165</p> <p>1 copies again. 2 (Exhibit No. 20 was marked for identification.) 3 MR. JAMES: It's marked as Exhibit 20. 4 THE WITNESS: Would this be a good time 5 to take a break before we get into -- 6 MR. JAMES: Absolutely. 7 THE WITNESS: Okay. 8 THE VIDEOGRAPHER: Going off record at 9 1:48 p.m. 10 (Recess taken from 1:48 p.m. to 2:03 p.m.) 11 THE VIDEOGRAPHER: Back on record at 12 2:03 p.m. 13 BY MR. JAMES: 14 Q. Dr. Moorman, I handed you had a copy of the 15 Penninkilampi paper. 16 A. I'm sorry, the papers were moved while 17 I was.... 18 Q. It was marked as Exhibit 20, I believe. 19 Here, I have an extra, if that would speed 20 things along. I'm sure it's somewhere in there. 21 A. It got moved around. Oh, here it is. 22 Q. Okay. Again, Dr. Moorman, this is one of the 23 meta-analyses that you reviewed to inform your 24 opinions in this case; correct? 25 A. That is correct.</p>

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<p>1 Q. It's also one of the more recent 2 meta-analyses on the issue; correct? 3 A. That's correct. 4 Q. And what did the Penninkilampi authors say 5 about causation? 6 A. Okay. They describe perineal talc is 7 associated with a 24 to 39 percent increased risk of 8 ovarian cancer. 9     And this is a very typical way that it would 10 be described in the epidemiologic literature. It – 11 as described very eloquently in some articles in the 12 American Journal of Public Health last spring, they 13 noted that, to the detriment of the science, that 14 epidemiologists are frequently loathe – or don't 15 often use the word "causal" when they describe a risk 16 factor; and, in part, this is because we are relying 17 on observational data. This is not an experimental 18 study. 19     And so, many times, reviewers, if they refer 20 to "we found that talc caused ovarian cancer," they 21 would object to that, saying that it wasn't a 22 randomized controlled trial. 23     But in this series of articles in the 24 American Journal of Public Health, they indicated that 25 the tendency not to use the word "causal" is to the</p>	<p>1 "Hence, while perineal talc use 2 has not been shown to be safe, in 3 a similar regard, a certain causal 4 link between talc use and ovarian 5 cancer has not yet been 6 established." 7 That's what the authors say; correct? 8 A. That's what they say, yes. 9 Q. Okay. So they caution that causation has not 10 been established; correct? 11 MS. PARFITT: Objection. 12 THE WITNESS: They say a certain causal 13 link has not been established -- not yet been 14 established. 15 BY MR. JAMES: 16 Q. And you're here today testifying about what 17 you believe to be evidence supporting the causal link; 18 correct? 19 A. Yes, I am -- I am. 20 Q. Okay. And so where in your report do you 21 advise the reader that the Penninkilampi authors 22 expressed reservations about causation? 23 A. I do not have anything like that in my 24 report. 25 MR. JAMES: The next meta-analysis that</p>
<p>1 detriment of the science. It's like "Why would we be 2 looking at risk factors for a disease if we didn't 3 think that it caused the disease?" 4     So I think that when an epidemiologist sees 5 an increased risk of ovarian cancer, we are thinking 6 that this is -- this causes ovarian cancer. 7 Q. But epidemiologists, including many of the 8 meta-analyses that we're about to review, have talked 9 about cause, haven't they? 10 MS. PARFITT: Objection. 11 THE WITNESS: Some of them have 12 addressed, yes. 13 BY MR. JAMES: 14 Q. For example, Penninkilampi doesn't seem shy 15 of the word "cause." If we look at page 42, 16 Dr. Moorman, we see, in the top paragraph in the 17 left-hand column, at the bottom of that paragraph, the 18 Penninkilampi authors write, quote -- this is the last 19 sentence -- 20 A. Wait. Page 42? 21 Q. Page 42. 22 A. Yes. 23 Q. It's the top left paragraph. The bottom last 24 sentence of that paragraph, the authors state 25 (as read):</p>	<p>1 we can look at is the Berg -- or Berge meta-analysis. 2 I'm going to mark that as Exhibit 21. 3 (Exhibit No. 21 was marked for identification.) 4 BY MR. JAMES: 5 Q. Do the Berge authors conclude that the 6 evidence is sufficient to support a causation 7 conclusion? 8 A. They do not make that conclusion, no. 9 Q. In fact, they actually -- they do address 10 causation, don't they? 11 A. They state their opinion, yes. 12 Q. Okay. And their opinion is expressed several 13 times throughout the article. The first is in the 14 abstract of the article; correct? 15     If we look at the abstract, it's the first 16 page of the article, page 248, the last sentence of 17 the abstract. Do you see that? 18 A. Yes, I do. 19 Q. They say (as read): 20     "The heterogeneity of results by 21 study design, however, detracts 22 from a causal interpretation of 23 this association." 24     Correct? 25 A. That's what it says, yes.</p>

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<p>1 Q. Where do you advise the reader of your MDL 2 report that the authors of the Berge meta-analyses 3 expressed reservations about causation? 4 MS. PARFITT: Objection. Form. 5 THE WITNESS: That is not in my report. 6 BY MR. JAMES: 7 Q. Do you see at the very end of article, at 8 the very last page on 256, before the acknowledgment 9 section, again, the authors conclude the article with 10 a statement that the results (as read): 11 "do not support a causal 12 interpretation of the 13 association." 14 Do you see where I'm reading? 15 A. They say some -- several aspects of the 16 results there. 17 Q. Fair enough. 18 A. Yes. 19 Q. So let's just read the sentence in full. So 20 they say (as read): 21 "Several aspects of our results, 22 including the heterogeneity of 23 results between case-control and 24 cohort studies, however, do not 25 support a causal interpretation of</p>	<p>1 MR. JAMES: And I'm going to reserve 2 the time that it takes -- 3 MS. PARFITT: No, you're not going to 4 reserve the time. You asked her a question; she was 5 answering it. 6 MR. JAMES: It was a yes-or-no 7 question. 8 MS. PARFITT: You can object -- it was 9 not, Scott. Let's have her finish her statement, and 10 you can decide what you want to do it with it. But 11 she's going to finish her comment. 12 Dr. Moorman, please. 13 THE WITNESS: So I think that in my 14 report, I did address the aspects of the heterogeneity 15 of the results, although I might not specifically have 16 addressed -- said anything specifically about the 17 limitation of the Berge. BY MS. PARFITT: 19 Q. Right. So my question, which was very 20 precise, is where do you note in your MDL report the 21 causation reservations of the Berge authors? 22 MS. PARFITT: Objection. THE WITNESS: And as I stated before, 23 that is not in -- that specific reservations of the 24 Berge authors, I do not have that in my -- in my</p>
<p>1 the association." 2 That's what they say; correct? 3 A. Right. 4 Q. And, again, do you advise the readers of your 5 MDL report that those are the conclusions of the Berge 6 meta-analysis? 7 MS. PARFITT: Objection. Form. 8 THE WITNESS: I do not specifically do 9 that. But in my report, I think that I really address 10 some of the heterogeneity of the results between 11 case-control and cohort studies and why some of the 12 differences might be observed and, for example, some 13 of the biases in the cohort studies would lead to an 14 underestimate of the -- BY MR. JAMES: 16 Q. And, Dr. Moorman -- 17 MS. PARFITT: Excuse me -- BY MR. JAMES: 19 Q. -- I'm going to ask you questions about that. 20 MS. PARFITT: -- Mr. James, she was in 21 the middle of her sentence. 22 MR. JAMES: I object to the 23 nonresponsive portion of her answer. 24 MS. PARFITT: You may, but let her 25 complete her answer.</p>	<p>1 report. BY MS. PARFITT: 3 Q. The next meta-analyses is -- and I'm working 4 backwards chronologically -- is the Langseth 5 meta-analyses. 6 Are you familiar with that paper? 7 A. Yes, I have seen that paper. 8 MR. JAMES: And I'm going to mark the 9 Langseth paper as Exhibit No. 23. (Exhibit No. 22 was marked for identification.) 11 MR. JAMES: I'm handing you two copies. 12 MR. DONATH: 23 or 22? 13 MS. BRENNAN: 22. 14 MR. JAMES: It's 22. So we'll sub 15 stickers. BY MR. JAMES: 17 Q. So Langseth is 22. Did the authors of 18 Langseth conclude that causation is shown? Yes or no, 19 please. 20 A. They -- if I may take just a moment to read 21 through it -- 22 Q. Sure. 23 A. -- as it... 24 No, they do not. Q. And, in fact, the authors do address the</p>

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<p>1 issue of causation on page 359 of the article; 2 correct, under the section "Proposal to research 3 community."</p> <p>4 Do you see where I am?</p> <p>5 A. I do see that.</p> <p>6 Q. Okay. And the authors state (as read):</p> <p>7 "The current body of experimental 8 and epidemiological evidence is 9 insufficient to establish a causal 10 association between perineal use 11 of talc and ovarian cancer risk."</p> <p>12 A. That is correct. And, again, noting the date 13 of this paper, 2008. So quite a lot of evidence has 14 emerged since then. And one of the authors on the 15 paper has since concluded that there is sufficient 16 evidence for causality.</p> <p>17 Q. And you're talking about a paid expert in 18 this case; correct?</p> <p>19 MS. PARFITT: Objection.</p> <p>20 THE WITNESS: Dr. Siemiatycki, who's a 21 paid expert, well-respected epidemiologist.</p> <p>22 BY MR. JAMES:</p> <p>23 Q. And he's a paid expert in this litigation for 24 the Plaintiffs; correct?</p> <p>25 MS. PARFITT: Objection.</p>	<p>1 conclude that the evidence was sufficient to support 2 causation?</p> <p>3 A. No, they did not.</p> <p>4 Q. Okay. And, in fact, the authors did address 5 causation in their paper in the abstract; correct?</p> <p>6 MS. PARFITT: Objection. Form.</p> <p>7 THE WITNESS: Yes, they do.</p> <p>8 BY MR. JAMES:</p> <p>9 Q. Okay. And at page 195 in the conclusion of 10 the abstract, the authors say (as read):</p> <p>11 "The available observational data 12 do not support the existence of a 13 causal relationship between 14 perineal talc exposure and 15 increased risk of epithelial 16 ovarian cancer. Selection bias 17 and uncontrolled confounding may 18 account for the positive 19 associations seen in prior 20 epidemiological studies."</p> <p>21 That's what the authors say; correct?</p> <p>22 A. That is what these authors say.</p> <p>23 Q. And did you report to the reader of your MDL 24 report the Huncharek authors' reserved judgment on 25 causation?</p>
<p>1 THE WITNESS: That is correct.</p> <p>2 BY MR. JAMES:</p> <p>3 Q. Where in your report -- and this is a 4 yes-or-no question, or actually it's not "yes" or 5 "no." You tell me if it exists or not.</p> <p>6 Where in your report do you show to the 7 reader of the report that the Langseth authors 8 reserved judgment on causation?</p> <p>9 MS. PARFITT: Objection to form.</p> <p>10 THE WITNESS: I did not specifically 11 include that in my report.</p> <p>12 BY MR. JAMES:</p> <p>13 Q. Dr. Moorman, have you reviewed the Huncharek 14 2003 meta-analyses?</p> <p>15 A. Yes, I have.</p> <p>16 MR. JAMES: And I'm going to mark the 17 Huncharek 2003 meta-analyses as Exhibit No. 23, and 18 we'll switch stickers at the break. (Exhibit No. 23 was marked for identification.)</p> <p>19 BY MR. JAMES:</p> <p>20 Q. I'm handing you two copies, Dr. Moorman.</p> <p>21 Is this another meta-analysis that you 22 reviewed in forming your opinions in this case?</p> <p>23 A. Yes, it is.</p> <p>24 Q. Okay. Did the authors of this meta-analysis</p>	<p>1 MS. PARFITT: Objection.</p> <p>2 THE WITNESS: As with the other 3 meta-analysis, this is now 16 years old, and I did not 4 specifically report that, but I did consider in my 5 report the biases and uncontrolled confounding that 6 they were concerned about.</p> <p>7 BY MR. JAMES:</p> <p>8 Q. Do any of the -- there are a handful of 9 meta-analyses that precede the Huncharek 2003 10 meta-analyses; correct?</p> <p>11 A. That is correct.</p> <p>12 Q. Do any of those meta-analyses conclude 13 causation?</p> <p>14 MS. PARFITT: Objection. Form.</p> <p>15 THE WITNESS: I don't believe that they 16 do.</p> <p>17 BY MR. JAMES:</p> <p>18 Q. And returning back to our discussion on the 19 Langseth meta-analyses, you noted sort of -- when I 20 asked you a question about their conclusions on 21 causation, you noted the timing of the article; 22 correct?</p> <p>23 A. Yes.</p> <p>24 Q. You noted that the article was published 25 in --</p>

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	<p>1 A. 2008. 2 Q. -- 2008? 3 A. Yes. 4 Q. That is right? 5 So is your opinion that the evidence in 2008 6 was, in fact, insufficient to support a causal 7 conclusion but has now transitioned to a status where 8 it is sufficient? 9 MS. PARFITT: Objection. Form. 10 THE WITNESS: You have asked me that 11 question in -- that or a similar question before. 12 There is a growing body of evidence. 13 I would be hard-pressed to say at what point in time, 14 you know, it reached the tipping point where there is 15 enough evidence to say that there is this causal 16 association. 17 At this point in time, I feel very confident 18 in saying that, but I can't say when sufficient data 19 accumulated to say that. I think that's an impossible 20 answer -- or an impossible question to answer. 21 BY MR. JAMES: 22 Q. And the reason I asked it again is because 23 you made the qualification in discussing the Langseth 24 paper. When I asked you about the authors' 25 conclusions on causation, you specifically noted that</p>	<p>1 A. No -- 2 MS. PARFITT: Objection. 3 THE WITNESS: -- for the same reasons 4 I described prior. 5 MR. JAMES: And I'm going to mark the 6 2013 Terry paper as Exhibit 24. 7 (Exhibit No. 24 was marked for identification.) 8 MR. JAMES: I think I'm back on track 9 on the numbers. I'm handing you two copies. 10 BY MR. JAMES: 11 Q. And again, Dr. Moorman, you've used this 12 paper to inform your opinions in the case; correct? 13 A. That is correct. 14 Q. And if you look at the last page of the text 15 on 820 with me, you see in the last paragraph, which 16 is -- the last paragraph on page 820, the authors 17 state at the top right-hand column (as read): 18 "More work is needed to understand 19 how genital powders may exert a 20 carcinogenic effect and which 21 constituents may be involved." 22 Do you see that sentence? 23 A. Yes, I do. 24 Q. There, the authors are again noting that -- 25 let me rephrase it this way.</p>
	<p>1 it was a paper from the 2008 time frame; correct? 2 A. Right. And I think that -- I think that it 3 is obvious that one of the authors, considering all 4 the additional data that's accumulated, would -- has 5 made a different conclusion at this point in time. 6 Q. And the author you're referring to there is 7 the author that we were discussing as a paid expert in 8 this case; correct? 9 MS. PARFITT: Objection. Form. 10 THE WITNESS: Yes. We established he 11 is a paid expert and, at the same time, a very 12 well-respected epidemiologist. 13 BY MR. JAMES: 14 Q. There's also a pooled analysis that you 15 looked at to inform your opinions in this case; 16 correct? 17 A. Yes. 18 Q. Okay. And the pooled analysis is the Terry 19 2013 paper? 20 A. That is correct. 21 Q. Okay. Did the Terry 2013 paper conclude 22 cause? 23 MS. PARFITT: Objection. Form. 24 BY MR. JAMES: 25 Q. It's yes or no.</p>	<p>1 The authors there are reserving judgment on 2 causation; correct? 3 MS. PARFITT: Objection. Form. 4 THE WITNESS: I don't think that that 5 is how I would necessarily interpret that. 6 BY MR. JAMES: 7 Q. Okay. 8 A. I think that, first of all, basically, any 9 scientific paper concludes with "more work is needed." 10 And so it's talking about, you know, trying to advance 11 scientific knowledge by understanding the biological 12 mechanism. 13 But I don't see anything -- any statement 14 there related to causal. It says "small to moderate 15 increased risk of ovarian cancer." And as I've stated 16 previously, basically, when we talk about risk 17 factors, we are thinking that this is something that 18 causes this cancer. 19 Q. So in your professional opinion, the word 20 "risk factor" is equivalent to "causation"?21 A. Not always equivalent. And if I may give an example. 23 Women who have higher educational level are 24 at increased risk for breast cancer. And so higher 25 education level, we might describe it as a risk factor</p>

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<p>1 for breast cancer. But, clearly, going to college is 2 not going to cause breast cancer. It's the other 3 factors that are associated with it, like your 4 childbearing patterns, alcohol use, other things. 5       But when we talk about a risk factor and 6 there is a plausible biological mechanism to get from 7 that exposure to cancer, I think that "risk factor" 8 and "cause" are pretty synonymous.</p> <p>9       Q. But to say something is associated in 10 epidemiologic literature is not to say that it's 11 causal.</p> <p>12       Do you agree with that?</p> <p>13       MS. PARFITT: Objection.</p> <p>14       THE WITNESS: Yes. That's kind of 15 epi 101, that everything that is associated is not 16 necessarily a cause.</p> <p>17 BY MR. JAMES:</p> <p>18       Q. To reach a causal conclusion, it's -- one 19 must undertake a more in-depth analysis; correct?</p> <p>20       A. As I did for this, and as all of us in this 21 room are well aware, the Bradford Hill framework is a 22 framework for taking the data and leading to making a 23 judgment on causality.</p> <p>24       Q. So if a paper refers to something as a risk 25 factor or a potential risk factor or a modifiable risk</p>	<p>1 meta-analyses. 2       Q. Are you aware of any flaws in the 3 Penninkilampi study? 4       MS. PARFITT: Objection. Form. 5       THE WITNESS: Overall, I felt like it 6 seemed to be a very well done meta-analysis. When we 7 look at judgments of meta-analyses, we like to see 8 things like, you know, what were the search terms they 9 used? What were the criteria for including or 10 excluding studies? Were the study questions defined 11 in advance? 12       And when I look through all of that, 13 I judged it overall to be a very well done 14 meta-analysis. 15 BY MR. JAMES: 16       Q. And so your answer to the question that 17 I asked is no; correct? 18       MS. PARFITT: Objection. 19       THE WITNESS: I -- I don't see any 20 serious problems with any -- you characterized it as 21 "flaws." I don't -- I don't see anything that I would 22 characterize as a flaw in their methodology. 23 BY MR. JAMES: 24       Q. If you look at page 47 with me, Dr. Moorman, 25 in the "Conclusions" section.</p>
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<p>1 factor, that terminology by itself does not suggest 2 that the authors of that paper have concluded 3 causation; correct?</p> <p>4       A. I -- I think that I have answered that 5 question already.</p> <p>6       When they're -- if they refer to it as a 7 risk factor, they may or may not have gone through the 8 full Bradford Hill evaluation of it. And then, also, 9 some things that we refer to as risk factors, where 10 there is not a plausible biological mechanism, we 11 wouldn't equate risk factor and cause in that 12 situation as well.</p> <p>13       Q. So you -- returning back to the Penninkilampi 14 meta-analysis, which I believe will be somewhere in 15 that pile --</p> <p>16       A. Mm-hmm.</p> <p>17       Q. -- you cite Penninkilampi 14 times in your 18 report.</p> <p>19       Were you aware of that?</p> <p>20       A. I don't know how many times I've cited it.</p> <p>21       Q. It's one of the most cited articles in your 22 report.</p> <p>23       Were you aware of that?</p> <p>24       A. I know that I referred to it frequently 25 because it is one of the most up-to-date, most recent</p>	<p>1 The conclusions section, I think you had 2 previously read in the first sentence of the 3 conclusions, the percentage increased risk reported in 4 the paper. 5       The second sentence says (as read): 6       "While the results of case-control 7 studies are prone to recall bias, 8 especially with intense media 9 attention following the 10 commencement of litigation in 11 2014, the confirmation of an 12 association in cohort studies 13 between perineal talc use and 14 serous invasive ovarian cancer is 15 suggestive of a causal 16 association." 17       Do you see where I was reading? 18       A. Yes, I do. 19       Q. Okay. So here we see that Penninkilampi is 20 acknowledging the recall bias problems of the 21 case-control studies; correct? 22       A. They are acknowledging that it is a 23 possibility. 24       Q. Okay. 25       A. Okay.</p>

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<p>1           MS. PARFITT: Wait. Are you still -- 2       thank you. 3           Please, finish. 4           THE WITNESS: Yes. And, you know, this 5       is, again, one of the things that I addressed in my 6       report. I very carefully considered recall bias and 7       how it could have contributed or not to the elevated 8       risk that has been seen across so many studies. 9       BY MR. JAMES: 10      Q. And one of the -- so within the sentence 11     "after acknowledging the recall bias" that we just 12     discussed, the Penninkilampi authors emphasize the 13     confirmation of an association in cohort studies. 14      Do you see that? 15      A. I do. 16      Q. Okay. Are there cohort studies that support 17     the association? 18      A. There are three cohort studies that have 19     examined talc use and ovarian cancer, and you're 20     probably very much aware of them: the Gonzalez study, 21     the Houghton -- which was from the Sister Study -- the 22     Houghton study, which was the Women's Health 23     Initiative; and the Nurses' Health Study, which has 24     been published in several of them. 25      And as they indicate in here, when you look</p>	<p>1       entirely sure of their rationale for why they looked 2       at one rather than the other. There were some 3       differences between the studies; like the later study, 4       the unexposed group was actually women who had used it 5       for less than once a week rather than never used. And 6       so they don't really go into the detail why they made 7       that decision. 8       But investigators will make a judgment 9       sometimes about which of a -- which studies to include 10      when there's more than one publication from a given 11      study. 12      Q. And do you know that with respect to the NHS 13      cohort, they have published two studies arising from 14      the NHS cohort looking at the issue of talc and the 15      ovarian cancer association; correct? 16      MS. PARFITT: Objection. Form. 17      THE WITNESS: They actually -- they 18      have published two studies, and data from the Nurses' 19      Health Study was also included in at least one other 20      publication. I believe Cramer was -- I'm not sure if 21      he was the first author or one of the authors where 22      they combined data. 23      BY MR. JAMES: 24      Q. The NHS cohort has published two papers with 25      respect to the talc/ovarian cancer association;</p>
<p>1       at the studies that reported on invasive serous -- and 2       if you will give me just a second here -- find it on 3       this paper. Okay. 4       When they report in Table 2 that combining 5       the two studies that reported on the histologic 6       subtypes, there was a significantly increased risk of 7       serous invasive cancer in the cohort studies as well 8       in the case-control studies. 9       Q. Sorry. 10      A. Okay. 11      Q. You did pause there. 12      A. I did. 13      The one study that really found no 14      association whatsoever with talc was the Gonzalez 15      study, the Sister Study, that has numerous problems 16      with it, most specifically in their assessment of the 17      talc exposure, the sample size, the duration of 18      follow-up. 19      Q. And returning to my question about this 20      article, were you aware that the Penninkilampi authors 21      didn't factor in the Gates 2010 data at all? 22      A. When one does a meta-analysis, sometimes when 23      data are reported in a couple of reports, you have to 24      make a decision about which one to include. 25      I believe they used data from the -- I'm not</p>	<p>1       correct? 2       A. I just answered the question. It's -- data 3       from it was also in another -- in another publication. 4       Q. The Gertig 2000 paper reported on the 5       talc/ovarian cancer association; correct? 6       A. Yes. 7       Q. And that's an NHS publication; correct? 8       A. It is. 9       Q. The Gates 2010 paper reported on talc/ovarian 10      cancer association; correct? 11      A. That is correct. 12      Q. And that's an NHS publication; correct? 13      A. Correct. 14      Q. An NHS publication of 2010 offered an 15      additional ten years of follow-up to the talc/ovarian 16      cancer hypothesis; correct? 17      MS. PARFITT: Objection. Form. 18      THE WITNESS: It was additional 19      follow-up, but no update on exposure during that 20      time -- period of follow-up. 21      BY MR. JAMES: 22      Q. For that period of follow-up, they followed 23      the study participants for an additional ten years; 24      correct? 25      MS. PARFITT: Objection. Form.</p>

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<p>1           THE WITNESS: Yes. I answered that 2 already. Yes. 3 BY MR. JAMES: 4           Q. And you agree more follow-up for a cohort is 5 better; correct? 6           MS. PARFITT: Objection. Form. 7           THE WITNESS: In general, longer 8 follow-up would be desirable. However, when they're 9 not updating exposure information, that could -- that 10 creates a bias, a possible bias. 11 BY MR. JAMES: 12           Q. Do you think the 2010 data and the Gates 13 paper with respect to the talc ovarian cancer issue is 14 superior to the 2000 data in the Gertig 2000 paper? 15           MS. PARFITT: Objection. Form. 16           THE WITNESS: I already made the point 17 that how they define the unexposed group was different 18 between the two studies; and so including some women 19 who had low levels of exposure in their unexposed 20 group, that could potentially have had the effect of 21 attenuating the association. 22           And so, you know, longer follow-up is 23 generally better, but some of the other things they 24 did, that's -- they were not so good. 25</p>	<p>1           Q. So one of your complaints -- 2 A. So I -- 3 Q. Sorry. 4 A. Okay. 5           Q. One of your issues with the cohort studies is 6 lack of follow-up; correct? 7 A. For -- yes, for -- there are -- it's one of 8 several concerns I have about the cohort studies. 9           Q. And the Penninkilampi study did not factor in 10 the additional period of follow-up through the 2010 11 paper; correct? 12 A. I don't believe they did. I think they went 13 with the earlier study. 14           Q. In fact, they didn't even cite to the Gates 15 2010 data, did they? 16           MS. PARFITT: Objection. 17           THE WITNESS: No, they -- they didn't. 18 BY MR. JAMES: 19           Q. And they didn't offer any explanation about 20 why they went with the earlier study, did they? 21 A. Not that I recall. 22           Q. And do you understand that in the 2010 NHS 23 paper through Gates, the association with serous 24 ovarian cancer washed out? 25           MS. PARFITT: Objection to form.</p>
<p>1           BY MR. JAMES: 2           Q. Elsewhere in your report, you do complain 3 about lack of follow-up in the cohort studies, don't 4 you? 5           A. I do mention that as one of the limitations, 6 yes. 7           Q. And you specifically discuss the NHS cohort 8 as having a period of -- I believe you say it's 9 14 years; is that right? 10          A. From -- yeah. I -- I can't remember 11 specifically. It's from the 1980s to -- I don't 12 remember the exact date of the last -- the last date 13 of follow-up in their papers. 14          Q. And, again, that's the exposure period that 15 Penninkilampi is looking at as well; correct? 16          Or excuse me, not the exposure period, the 17 period of time that they follow the study 18 participants; correct? 19          Penninkilampi is looking at from 20 questionnaire to 2000; correct? 21          A. Correct. 22          Q. Okay. And when you say in your report that 23 the NHS study has a 14-year follow-up period, that's 24 what you're looking at too, as well; correct? 25          A. Right. From the time of exposures --</p>	<p>1           THE WITNESS: "Washed out," I don't 2 like that term. But again, I fully acknowledge that 3 the later study showed weaker associations, yes. 4 BY MR. JAMES: 5           Q. And the association for serous invasive 6 ovarian cancer in the Gates 2010 paper was not 7 statistically significant; correct? 8           A. I believe that is correct. 9           Q. So when you include the critique in your 10 report about the follow-up being a 14-year period, you 11 also, like Penninkilampi, aren't crediting the 12 additional ten years of follow-up that the Gates paper 13 published on; correct? 14          MS. PARFITT: Objection to form. 15          THE WITNESS: "Aren't crediting the 16 additional ten years of follow-up." 17          You know, as I have stated before, when 18 people do meta-analyses, they will make decisions 19 about which studies to include. I acknowledge that 20 Penninkilampi didn't describe in detail why they went 21 with the Gertig rather than a later study. 22          My understanding, however, is that other 23 people -- other meta-analyses have looked at -- have 24 included the later study, and the overall conclusions 25 were not changed in any real way.</p>

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<p>1 BY MR. JAMES: 2 Q. Well, Penninkilampi, you say, didn't describe 3 in detail about why they went with the earlier study, 4 but, in truth, they didn't describe it at all. 5 MS. PARFITT: Objection. 6 THE WITNESS: That's -- that's correct. 7 BY MR. JAMES: 8 Q. And when you refer to other studies that 9 have, in fact, looked at the Gates 2010 cohort data 10 that provides a longer period of follow-up, those 11 papers have necessarily noted that the serious 12 relationship found in Gertig 2000 disappeared in 2010; 13 correct? 14 MS. PARFITT: Objection. Form. 15 THE WITNESS: Can you -- can we -- tell 16 me which -- specifically which article you're -- 17 BY MR. JAMES: 18 Q. Sure. Let's turn to the Berge article. 19 A. Okay. 20 Q. The Berge article was marked as 21 Exhibit No. 21. And you have it before you, Doctor? 22 A. I do. 23 Q. Okay. And if you turn to Figure 2, which is 24 on page 254, do you see that there that in the forest 25 plot, they have listed the cohort studies at the</p>	<p>1 BY MR. JAMES: 2 Q. They're heterogeneous. Did I pronounce that 3 correctly? 4 A. No. Heterogeneous. 5 Q. Heterogeneous. Thank you. I figured I got 6 that wrong. 7 So what they're saying there is that the 8 results by the study design are different; right? 9 A. That's -- yes, that's what they are saying. 10 Q. And here we see, again, that this study used 11 the more recent data; correct? 12 MS. PARFITT: Objection. Form. 13 THE WITNESS: It used the more recent 14 publication from the Nurses' Health Study, yes. 15 BY MR. JAMES: 16 Q. Which includes the more recent data; correct? 17 MS. PARFITT: Objection. 18 THE WITNESS: Yes. 19 BY MR. JAMES: 20 Q. On page 8 of your report, Dr. Moorman, you 21 say at the bottom paragraph (as read): 22 "Cohort studies and case-control 23 studies each have advantages and 24 disadvantages for assessing talc 25 as a risk factor for ovarian</p>
<p>1 bottom; correct? 2 A. Correct. 3 Q. Okay. And there they report data from the 4 Gates 2010 study; correct? 5 A. Correct. 6 Q. Okay. They do not report the data from the 7 Gertig 2000 paper; correct? 8 A. That is correct. 9 Q. And if you look at the conclusions of the 10 Berge authors -- and we talked about this before -- 11 but if you look at the abstract of the paper, 12 Dr. Moorman, the authors say (as read): 13 "The heterogeneity of results by 14 study design, however, detracts 15 from a causal interpretation of 16 this association." 17 Do you see that? 18 A. Yes. You've asked that before. Yes. 19 Q. And what the authors there are saying is that 20 the results from the case-control studies, the 21 meta-analyses of the case-control studies, and the 22 results of the meta-analyses of the cohort studies are 23 different; right? 24 MS. PARFITT: Objection. 25 THE WITNESS: They -- yes.</p>	<p>1 cancer, and one study design is 2 not clearly superior to the 3 other." 4 Do you see where I was reading that? 5 A. Yes, I do. 6 Q. So your expert opinion in this case is that 7 the cohort studies on talc ovarian cancer and the 8 case-control studies on talc ovarian cancer are on 9 equal footing? 10 A. I think -- again, using terminology like 11 "equal footing," it's -- I wouldn't really describe it 12 like that. 13 I think that case-control studies and cohort 14 studies are both well-established, well-accepted 15 methods for studying cancer epidemiology. There are 16 strengths and weaknesses to each design, as I have 17 indicated here. And some of them very -- some of the 18 strengths and weaknesses are very specific to this 19 exposure and outcome. 20 Q. Doesn't the body of talc ovarian cancer 21 literature that you've looked at for your MDL opinions 22 emphasize the importance of cohort data on the issue? 23 MS. PARFITT: Objection. Form. 24 THE WITNESS: I considered all of the 25 epidemiologic data; and when we look at the body of</p>

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<p>1 literature, more of the literature comes from 2 case-control studies than from cohort studies. So all 3 of the data are important. There just happen to be 4 more case-control studies than cohort studies. 5 BY MR. JAMES: 6 Q. But your testimony is that the cohorts are 7 not superior to the case-controls, and the 8 case-controls are not superior to the cohorts; 9 correct? 10 A. As I describe in my report -- the same page, 11 I say (as read): 12 "Rather than making a judgment 13 based only on the overall study 14 design, the evaluation and 15 interpretation of the findings of 16 the studies must consider the 17 strengths and weaknesses of the 18 individual studies." 19 And I think that I did consider that. 20 I considered strengths and weaknesses of the cohort 21 studies. I considered strengths and weaknesses of the 22 case-control studies. 23 Q. And you're not claiming that the study design 24 of these studies -- the cohort versus the 25 case-control -- one is superior to the other? You're</p>	<p>1 And it's the number of cases rather than the overall 2 size of the cohort that contributes to the statistical 3 power. And that doesn't address all the other 4 problems with that study. 5 But sometimes people will mistakenly say 6 these large studies -- you know, this large study, 7 40,000 people, and they didn't find an association. 8 But they're not looking into all the limitations of 9 that particular study. 10 BY MR. JAMES: 11 Q. Okay, Dr. Moorman, I'm going to object to the 12 nonresponsive nature of your answer. 13 A. I -- I think that I was responsive, but 14 please ask your question again. 15 Q. Okay. So the question that I asked you is 16 whether you are aware that the body of literature that 17 you've looked at has generally emphasized the 18 importance of cohort data on this topic. The answer 19 is yes or the answer is no. 20 MS. PARFITT: The answer is -- first, 21 I object to the question. And the witness has 22 answered the question several times. Your time. 23 You're on your clock. 24 BY MR. JAMES: 25 Q. Are you aware that the body of literature has</p>
<p>1 not claiming that? 2 MS. PARFITT: Objection. Asked and 3 answered several times. 4 THE WITNESS: Right. I -- again, 5 I think that I have answered that, that they -- the 6 study designs are both well-accepted study designs; 7 they have advantages and disadvantages; and so you 8 have to look at some of the specific characteristics 9 of the individual studies. 10 BY MR. JAMES: 11 Q. And so the body of talc literature that 12 you've looked at, whether it be cohort studies, 13 meta-analyses, case-control studies, are you aware 14 that that body of literature has generally emphasized 15 the importance of cohort data on this topic? 16 MS. PARFITT: Objection. Misstates the 17 record -- scientific record. 18 THE WITNESS: I am aware -- I have read 19 some studies that mistakenly say that the cohort 20 studies, because they involve 40,000 or 60,000 people, 21 that they provide more of the evidence than all the 22 case-control studies, which are generally smaller. 23 However, just, again, to take the example of 24 the Gonzalez sisters study, that's a cohort with 25 40,000 people in it, but there were only 154 cases.</p>	<p>1 emphasized the importance of cohort data? Are you 2 aware of that? Yes or no? 3 MS. PARFITT: Objection. 4 THE WITNESS: I -- I disagree that -- 5 your characterization of it. 6 BY MR. JAMES: 7 Q. Then, the answer is no. 8 A. No. You asked am I aware -- 9 Q. The answer is yes or it's no, Dr. Moorman. 10 I have limited time to ask questions today. 11 Were you aware -- are you aware that the 12 body of literature on talc and ovarian cancer has 13 emphasized the importance of cohort data on this 14 topic? 15 MS. PARFITT: Objection. Form. 16 THE WITNESS: I don't think -- 17 MS. PARFITT: Asked and answered. 18 THE WITNESS: -- the statement is true. 19 I think that the -- 20 BY MR. JAMES: 21 Q. So then the answer is no. 22 MS. PARFITT: Stop. Let her answer. 23 THE WITNESS: No. You're asking me if 24 I'm aware -- 25 MS. PARFITT: Why do you ask her the</p>

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<p>1 same question?</p> <p>2 THE WITNESS: -- that this has</p> <p>3 emphasized that. And I don't think that is it at all.</p> <p>4 I think that the body of literature</p> <p>5 emphasizes again and again and again that of the</p> <p>6 roughly 25 to 30 studies, only three of them are</p> <p>7 cohort studies.</p> <p>8 It's part of the data on the topic, but it's</p> <p>9 just part of it. So to say that it has emphasized the</p> <p>10 importance of cohort data, I don't agree with that</p> <p>11 statement.</p> <p>12 BY MR. JAMES:</p> <p>13 Q. I marked the Houghton WHI study as</p> <p>14 Exhibit No. 25, and I'm going to hand you two copies.</p> <p>15 (Exhibit No. 25 was marked for identification.)</p> <p>16 THE WITNESS: Thank you.</p> <p>17 BY MR. JAMES:</p> <p>18 Q. All right. Dr. Moorman, you see here in the</p> <p>19 abstract, the "Background" section of the paper, the</p> <p>20 authors of the WHI study in 2014 say that (as read):</p> <p>21 "The purpose of this analysis was</p> <p>22 to assess perineal powder use and</p> <p>23 risk of ovarian cancer</p> <p>24 prospectively."</p> <p>25 Correct?</p>	<p>1 exposure."</p> <p>2 Do you see where I read that?</p> <p>3 A. I do.</p> <p>4 Q. Okay. Again, do you agree with that</p> <p>5 statement as a general proposition?</p> <p>6 A. I would like to point out there are --</p> <p>7 potential reason, a potential for an overestimation.</p> <p>8 And in my own report, I acknowledge the potential for</p> <p>9 recall bias, and I go back to explain why I don't</p> <p>10 think that recall bias is a full explanation for this</p> <p>11 association.</p> <p>12 Q. Nevertheless, you will agree with me that the</p> <p>13 authors of this paper are acknowledging the importance</p> <p>14 of cohort data? Agree?</p> <p>15 MS. PARFITT: Objection.</p> <p>16 THE WITNESS: As you would expect the</p> <p>17 investigators on a cohort study to do.</p> <p>18 BY MR. JAMES:</p> <p>19 Q. And the answer was yes --</p> <p>20 A. Yes.</p> <p>21 Q. -- comma, as you would expect?</p> <p>22 MS. PARFITT: Objection.</p> <p>23 THE WITNESS: Yes.</p> <p>24 MR. JAMES: I'm going to mark as the</p> <p>25 next exhibit the Gertig 2000 paper, which is</p>
<p>1 A. That is what it says, yes.</p> <p>2 Q. Okay. And if we look towards page 5, we see,</p> <p>3 at the top of the left-hand column, the authors there</p> <p>4 emphasize (as read):</p> <p>5 "The prospective nature of our</p> <p>6 study would eliminate the</p> <p>7 potential for recall bias."</p> <p>8 Do you see that?</p> <p>9 A. I do see that.</p> <p>10 Q. Do you agree with that general proposition?</p> <p>11 "Yes" or "no"?</p> <p>12 A. It eliminates the potential for recall bias.</p> <p>13 It does not eliminate the potential for inaccurate</p> <p>14 recall.</p> <p>15 Q. And if you look at page 4, it's the preceding</p> <p>16 set of sentences, the authors note -- quote -- at the</p> <p>17 bottom of the right column (as read):</p> <p>18 "One potential reason that</p> <p>19 case-control studies have found</p> <p>20 slight increases in risk is the</p> <p>21 potential for an overestimation of</p> <p>22 the true association due to recall</p> <p>23 bias, because the participants are</p> <p>24 aware of their ovarian cancer</p> <p>25 status when reporting powder</p>	<p>1 Exhibit No. 26.</p> <p>2 (Exhibit No. 26 was marked for identification.)</p> <p>3 BY MR. JAMES:</p> <p>4 Q. Again, this is the NHS 2000 paper; correct?</p> <p>5 A. That is correct.</p> <p>6 Q. And we see that in the abstract of this</p> <p>7 cohort paper, the authors state at the -- well, it's</p> <p>8 not in the abstract -- it's right above the "Methods"</p> <p>9 section, the authors state (as read):</p> <p>10 "Despite the relative consistency</p> <p>11 among studies, the limited</p> <p>12 supporting biologic evidence,</p> <p>13 together with the possibility of</p> <p>14 recall and selection bias in</p> <p>15 case-control studies, has raised</p> <p>16 questions about the plausibility</p> <p>17 of the association. We,</p> <p>18 therefore, prospectively examined</p> <p>19 the relationship between perineal</p> <p>20 talc use and ovarian cancer risk</p> <p>21 in a large cohort of US women."</p> <p>22 Do you see where I read that?</p> <p>23 A. Yes, I do.</p> <p>24 Q. And again, methodologically, the authors of</p> <p>25 this cohort paper are emphasizing the importance of</p>

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<p>1 cohort data on the topic; correct?</p> <p>2 MS. PARFITT: Objection.</p> <p>3 THE WITNESS: Yes. Again, they</p> <p>4 emphasize the importance of doing it prospectively, as</p> <p>5 you would expect the investigators on a cohort study</p> <p>6 to do.</p> <p>7 BY MR. JAMES:</p> <p>8 Q. Do you think that's just because there's some</p> <p>9 sort of subjective bias the authors of that cohort</p> <p>10 paper have towards cohorts? Do you think that's just</p> <p>11 their personal opinion?</p> <p>12 MS. PARFITT: Objection.</p> <p>13 THE WITNESS: I have no way of knowing</p> <p>14 what their opinion is.</p> <p>15 BY MR. JAMES:</p> <p>16 Q. A number of the meta-analyses that we've</p> <p>17 looked at today and that you looked at to inform your</p> <p>18 report have also talked about the benefits of cohort</p> <p>19 data. And I've asked that question before, and that's</p> <p>20 where we -- that's where we sort of ran into issues,</p> <p>21 so I'll just strike that question.</p> <p>22 If you can turn to -- back to the</p> <p>23 Penninkilampi study. And the Penninkilampi study is</p> <p>24 the recent meta-analysis that you cited 14 times in</p> <p>25 your report; correct?</p>	<p>1 again stressing the desire for cohort data on this</p> <p>2 topic; correct?</p> <p>3 MS. PARFITT: Objection. Misstates the</p> <p>4 evidence.</p> <p>5 THE WITNESS: When -- if we were to</p> <p>6 look at a cohort study where women were enrolled in</p> <p>7 the study early in their life when they started using</p> <p>8 talc and they were followed throughout their life and</p> <p>9 exposure information was updated throughout the period</p> <p>10 of follow-up and you followed them for 50 years, that</p> <p>11 would be a wonderful way -- a stronger design than to</p> <p>12 do a case-control study. So I could not disagree with</p> <p>13 that.</p> <p>14 But we're being asked to make a judgment on</p> <p>15 the data that we have here -- here and now, not</p> <p>16 something that's decades away.</p> <p>17 BY MR. JAMES:</p> <p>18 Q. Do you agree that case-control studies are</p> <p>19 low-level evidence?</p> <p>20 A. No, I do not agree with that.</p> <p>21 Q. Do you know that the Penninkilampi authors</p> <p>22 referred to case-control studies as low-level</p> <p>23 evidence?</p> <p>24 A. I see that in their paper.</p> <p>25 Q. Do you --</p>
<p style="text-align: center;">Page 207</p> <p>1 MS. PARFITT: Objection. Form.</p> <p>2 THE WITNESS: As stated below -- or</p> <p>3 stated above, I have cited it. I don't know how many</p> <p>4 times.</p> <p>5 BY MR. JAMES:</p> <p>6 Q. And meta-analyses also are what you refer to</p> <p>7 in your report as some of the strongest evidence;</p> <p>8 correct?</p> <p>9 A. Yes, that is correct.</p> <p>10 Q. Okay. And so the authors of this</p> <p>11 meta-analysis, on page 47 in the conclusion section,</p> <p>12 which we have looked at already, again note that</p> <p>13 case-control studies are "prone to recall bias";</p> <p>14 right?</p> <p>15 A. That's what it says, yes.</p> <p>16 Q. Okay. And then if you continue on past the</p> <p>17 section that we've already read -- and actually, it</p> <p>18 begins at the bottom of page 47 and carries to 48 --</p> <p>19 but the authors state (as read):</p> <p>20 "Additional epidemiologic evidence</p> <p>21 from prospective studies with</p> <p>22 attention to effects within</p> <p>23 ovarian cancer subtype is</p> <p>24 warranted."</p> <p>25 So here the authors of Penninkilampi are</p>	<p style="text-align: center;">Page 209</p> <p>1 A. I --</p> <p>2 Q. I'm sorry.</p> <p>3 A. I will disagree with that. It's -- just</p> <p>4 using the example of my own study, the AACES study.</p> <p>5 Of all the studies that have looked at talc and</p> <p>6 ovarian cancer, I believe that one is the one that has</p> <p>7 been most recently funded. So about 2009, 2010. It's</p> <p>8 quite an expensive study, and I can't imagine that the</p> <p>9 National Cancer Institute would have invested that</p> <p>10 much money in the study if they thought that we were</p> <p>11 only going to get low-level evidence.</p> <p>12 MS. PARFITT: Scott, we've been going</p> <p>13 about an hour and ten.</p> <p>14 You may want to keep going? Just let me</p> <p>15 know.</p> <p>16 THE WITNESS: I could use a break.</p> <p>17 MR. JAMES: May I finish this line? Is</p> <p>18 that okay with you?</p> <p>19 THE WITNESS: Yes.</p> <p>20 MR. JAMES: Everyone?</p> <p>21 MS. PARFITT: Sure.</p> <p>22 BY MR. JAMES:</p> <p>23 Q. Dr. Moorman, if you can turn with me to the</p> <p>24 Langseth study. It's Exhibit 22. And this will be</p> <p>25 the last series of questions, and then we'll take our</p>

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<p>1 break. 2 A. Langseth -- okay. The exhibit number is 3 incorrect. 4 Q. Oh, you're right. And I'm going to fix that 5 at break. Thank you. 6 A. Okay. 7 Q. If you turn with me to page -- well, you 8 don't have to turn. It's page 358. It's the first 9 page of the article. And, again, Langseth is one of 10 the meta-analyses upon which you rely; correct? 11 A. Correct. 12 Q. And the meta-analyses authors here say, in 13 the left-hand column at the bottom, the second 14 sentence of the bottom paragraph, they say (as read): 15 "In the cohort study, arguably the 16 strongest study because of its 17 partly prospective ascertainment 18 of exposure, there was no 19 association between cosmetic talc 20 use and risk of all subtypes of 21 ovarian cancer combined." 22 Do you see that? 23 A. Yes. 24 Q. Okay. You agree with the Langseth authors 25 that the cohort study is arguably the strongest study</p>	<p>1 Q. And you cite Narod for your comments about 2 power in the cohorts; correct? 3 A. Yes. 4 Q. Have you analyzed the calculations performed 5 by Narod? Have you separately analyzed his 6 calculations? 7 A. No, I did not. 8 Q. Have you considered any other commentaries or 9 articles looking at the issue of power in the cohort 10 studies in the talc ovarian cancer literature? 11 A. I -- I'm trying to remember specifically. It 12 seems like the Sister Study might have mentioned power 13 as a limitation of their study because of the number 14 of cases. 15 Q. Did you consider -- let me just hand this to 16 you. We already have it marked. It's the Berge 17 article, which is Exhibit 21. 18 A. Okay. 19 Q. And I'm turning to page 253. And at the 20 far -- the right column, top paragraph, and halfway 21 down through that paragraph, the authors state 22 (as read): 23 "It should be noted that the 24 cohort studies included in the 25 meta-analyses comprised a total of</p>
<p>1 because of its prospective nature? 2 A. I really can't say that I agree with that, 3 because the prospective aspect of it is certainly a 4 positive for the study, but the way they did exposure 5 assessment kind of weakened the study. 6 So I think that there were some very well 7 done case-control studies, so I wouldn't necessarily 8 say this was the strongest study. 9 MR. JAMES: And now is a good time for 10 the break. 11 THE WITNESS: Okay. 12 MR. JAMES: Thank you. 13 THE VIDEOGRAPHER: Going off record at 14 3:02 p.m. 15 (Recess taken from 3:02 p.m. to 3:16 p.m.) 16 THE VIDEOGRAPHER: Back on record at 17 3:16 p.m. 18 BY MR. JAMES: 19 Q. Dr. Moorman, on page 25 of your report, you 20 make a comment about power and the cohort studies; 21 correct? 22 A. Can you -- 23 Q. It's the bottom of first paragraph, where you 24 cite the Narod article. 25 A. Yes.</p>	<p>1 429 cases of ovarian cancer 2 exposed to genital talc and 943 3 unexposed cases. The statistical 4 power of the meta-analysis of 5 these cohort studies to detect a 6 relative risk of 1.25, similar to 7 the result of meta-analyses of 8 case-control studies, was .99. 9 Thus low power of cohort studies 10 cannot be invoked as an 11 explanation of the heterogeneity 12 of results." 13 You see where I was reading? 14 A. I do. 15 Q. Have you considered this portion of the Berge 16 article before? 17 A. I have looked at this article, and I have 18 considered all aspects of it, as I did all of the 19 other meta-analyses and articles. 20 Q. You did not cite the Berge article with 21 regard to the issue of power in your report; correct? 22 MS. PARFITT: Objection. Form. 23 THE WITNESS: No, I -- I did not. 24 BY MR. JAMES: 25 Q. Okay. And why is that?</p>

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<p>1 A. I can't cite any specific reason. 2 Q. Is that because this conflicts with your 3 litigation opinion on power? 4 MS. PARFITT: Objection. Form. 5 THE WITNESS: No. I -- I don't -- that 6 was not my reason, no. 7 BY MR. JAMES: 8 Q. Do you have any reason to disagree with the 9 power analysis set forth in the Berge paper? 10 A. I -- I don't have a reason to disagree with 11 the power issue, but I think that it's only one part 12 of the picture, that there are other factors that 13 could contribute to differences in the findings 14 between the cohort studies and the case-control 15 studies. 16 Q. With respect to this precise power 17 calculation in the Berge paper, do you have any 18 criticisms of this power calculation? 19 A. They do not provide much detail on how they 20 calculated it, so there's really -- I can't say if 21 they did it correctly or not. But I -- I just can't 22 comment on it. It's just a single sentence there. 23 Q. Similar to the Narod sentence that you 24 reviewed? 25 A. I --</p>	<p>1 but with respect to the issue of follow-up -- it's the 2 paragraph above the Narod comment. 3 Do you see where I am? 4 A. Yes. 5 Q. Okay. And there, we talk about -- excuse me. 6 There, you talk about the follow-up for the cohort 7 studies; correct? 8 A. Yes. 9 Q. Okay. And with respect to the NHS follow-up, 10 there is where you report 14 years of follow-up; 11 right? 12 A. Correct. 13 Q. And as we discussed earlier today, that does 14 not account for the additional ten years of data as 15 reflected by the Gates 2010 paper; correct? 16 A. What I am referring here, I'm describing the 17 three cohort studies in the most recent meta-analyses 18 and what they reported in that meta-analysis -- 19 Q. Understood. 20 A. Okay. 21 Q. So you're referring there to the 22 Penninkilampi meta-analysis; correct? 23 A. I believe that is the case. Let me check the 24 reference. Yes. 25 Q. So Penninkilampi reports the 14 years of</p>
<p>1 Q. Let me rephrase it if it helps. 2 Did you separately assess the Berge -- 3 excuse me -- the power calculation in either the Narod 4 article or the Berge article? 5 A. If I may go back to my report for just a 6 moment. 7 Q. Sure. 8 A. I think that this statement that I have 9 here -- I'm -- I think my intent in my report was 10 indicating that the lack of statistical significance 11 in the individual studies was a power concern. 12 Berge was talking about the statistical 13 power for the combined studies. So I think that there 14 is some distinction there between what I'm referring 15 to individual studies versus what Berge is describing 16 as the power of the combined analysis. 17 Q. Well, Berge is saying that the low power of 18 cohort studies cannot be invoked as an explanation for 19 the heterogeneity of results. 20 Do you agree or disagree with that 21 statement? 22 A. When they are combining them, I -- I don't 23 disagree with that. I think there are other reasons 24 that can explain the heterogeneity. 25 Q. On page 25, we've touched upon this already,</p>	<p>1 follow-up; correct? 2 A. I believe so. 3 Q. And we know that the Penninkilampi paper did 4 not include the additional 10 years of follow-up as 5 reflected by the Gates 2010 paper; correct? 6 A. Yes. We have already -- you've already asked 7 and I've already answered that. 8 Q. And then the next one you discuss is the WHI 9 study where you are reporting Penninkilampi's 10 reporting of 12.4 years of follow-up; correct? 11 A. That is correct. 12 Q. And do you know that the follow-up period in 13 the WHI -- do you know that the WHI asked about 14 duration of talc use? 15 A. May I go back to that study? 16 Q. Sure. 17 A. Do you -- 18 Q. It's 25. 19 A. Yes, they describe in their exposure 20 assessment, that they did ask about duration of use 21 using five categories from less than a year all the 22 way up to 20 or more years. 23 Q. And so we know that they -- they followed the 24 study participants for, according to Penninkilampi, 25 12.4 years. But, in addition to that, they also asked</p>

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<p>1 about the -- study participants about their prior 2 duration of usage; correct?</p> <p>3 A. They asked about that, but I think that one 4 has to consider some of the caveats that go along with 5 that. These -- may I continue?</p> <p>6 These women, they report that they were, on 7 average, 63 years of age when they -- at baseline, so 8 at the start of enrollment in the cohort. So they 9 were asking them to recall an exposure that went back, 10 for many women, that probably started in their teens 11 or twenties. So there was certainly the possibilities 12 of some inaccurate recall because they were asking 13 them to recall an exposure that went back quite a few 14 years.</p> <p>15 Another consideration with this study is 16 they excluded roughly -- let's see -- the cohort 17 was -- they started off with 90-some-thousand women in 18 the cohort, and they excluded any history of any women 19 with cancer at baseline, which is appropriate to do, 20 but the potential concern about that is, if there were 21 talc users who had developed ovarian -- or had 22 developed ovarian cancer before the follow-up began, 23 that would never be captured.</p> <p>24 MR. JAMES: Okay. Dr. Moorman, just 25 very respectfully, I'm going to have to object to the</p>	<p>1 excuse me -- page 26, you discuss updating exposure 2 information in the cohort studies.</p> <p>3 A. Yes.</p> <p>4 Q. Do you have any basis to dispute the accuracy 5 of the reported talc use at the time it was initially 6 ascertained in the cohort studies?</p> <p>7 A. The accuracy of the reported talc use at the 8 time that they started follow-up in the cohorts.</p> <p>9 Q. Correct.</p> <p>10 A. I believe that, when you are asking people to 11 recall exposures that occurred over a long period of 12 time, there will be some inadvertent inaccuracies.</p> <p>13 Q. And are you saying with respect to questions 14 about duration?</p> <p>15 A. It could be with ever use or with duration. 16 Some women who used it might have forgotten and never 17 reported it. So that's just kind of an inherent 18 problem anytime you ask someone to recall exposures, 19 particularly if they might have occurred decades ago.</p> <p>20 Q. Is that true for the case-control studies as 21 well?</p> <p>22 A. Yes. In my report, I indicate that -- I make 23 the distinction between recall bias and inaccurate 24 recall and indicate that inaccurate recall -- 25 specifically on page 21, make the distinction between</p>
<p style="text-align: center;">Page 219</p> <p>1 nonresponsive portion of the answer. 2 BY MR. JAMES: 3 Q. So the question that I asked is not the 4 question that you ended up answering. 5 A. I did answer your question, I believe. 6 Q. Okay. I didn't ask you for your critiques of 7 the WHI. I asked you about the follow-up issue. 8 Okay? Do we need to look at the question again? 9 I asked -- my question is: 10 "Question: But in addition to that, 11 they also asked about -- the study 12 participants about their prior 13 duration of usage; correct?" 14 A. And I answered it but thought that there were 15 important relevant considerations. 16 MR. JAMES: Can we go off the record 17 for a second -- 18 MS. PARFITT: Yes. 19 MR. JAMES: -- please? 20 THE VIDEOGRAPHER: Off record at 3:29. 21 (Discussion off the record.) 22 THE VIDEOGRAPHER: Back on record at 23 3:31 p.m. 24 BY MR. JAMES: 25 Q. On page 25 of your report, Dr. Moorman --</p>	<p style="text-align: center;">Page 221</p> <p>1 recall bias and inaccurate recall that is difficult -- 2 inaccurate recall and exposure that is difficult to 3 remember with precision. 4 And that's an issue with any type of study 5 when you're asking people to recall past exposures. 6 Q. And transitioning to the topic that you 7 brought up, which is the recall bias. We can stay on 8 page 216 your report. 9 A. Yes. 10 Q. And there, you address -- at the bottom 11 paragraph, you say that (as read): 12 "Recall bias, which theoretically 13 could result in the bias estimate 14 of the relative risk, must be 15 considered." 16 Do you see where I am? 17 A. I do. 18 Q. And you cite three situations where recall 19 bias would be a "particular threat" to a study's 20 validity; right? 21 A. Yes. 22 Q. And with -- let's walk through those three 23 together. 24 The first is -- the first threat that you 25 identify is "if the exposure of interest is one that</p>

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<p>1 could be considered sensitive"; right?</p> <p>2 A. Yes.</p> <p>3 Q. Okay. And then you address that reason in</p> <p>4 turn on the next page, on page 22 of your report?</p> <p>5 A. Yes.</p> <p>6 Q. And you state there that (as read):</p> <p>7 "In regard to the situation,</p> <p>8 genital talc use would 'not be</p> <p>9 considered a particularly</p> <p>10 sensitive topic."</p> <p>11 Right?</p> <p>12 A. That's what I state in my report, yes.</p> <p>13 Q. Okay. And what basis do you have for that</p> <p>14 statement? Do you cite to anything? Have you</p> <p>15 conducted any studies to support that statement? What</p> <p>16 scientific basis do you have for that statement?</p> <p>17 A. This is based on my professional judgment,</p> <p>18 based on years and years of doing studies where we</p> <p>19 collect data, getting feedback from interviewers. In</p> <p>20 our studies, we ask about a lot of personal things,</p> <p>21 you know, their menstrual history, their contraceptive</p> <p>22 history, those kind of things.</p> <p>23 And I have never gotten the impression that</p> <p>24 these were things that women considered sensitive and</p> <p>25 did not want to reveal, whereas when you get into</p>	<p>1 them, or any reason why a woman, if she's telling you</p> <p>2 her whole pregnancy and menstrual history, why she</p> <p>3 would feel embarrassed about her use of genital talc.</p> <p>4 Q. And do you have any empirical data to support</p> <p>5 that opinion?</p> <p>6 A. I am unaware of any empirical data that</p> <p>7 specifically addresses that.</p> <p>8 Q. Okay. The second situation you identify on</p> <p>9 page 21 and then discuss on page 22 is if -- is if the</p> <p>10 study hypotheses are known to the study subjects or</p> <p>11 interviewers.</p> <p>12 Do you see that?</p> <p>13 A. Yes.</p> <p>14 Q. Okay. And your analysis is on page 22.</p> <p>15 What did you do to evaluate this factor?</p> <p>16 A. Whether the study hypotheses are known to the</p> <p>17 study subjects or interviewers?</p> <p>18 Q. Correct. With respect to the talc ovarian</p> <p>19 cancer literature.</p> <p>20 A. Okay. Again, this is based on my experience</p> <p>21 in having done epidemiologic studies for many years.</p> <p>22 As I state here, it's standard practice in</p> <p>23 epidemiologic research where we're not discussing the</p> <p>24 hypotheses with the interviewers. We're asking a lot</p> <p>25 of questions. Some thought to increase risk; some</p>
<p>1 other topics, say -- like, I give the example of</p> <p>2 induced abortion, that, I have heard from some of our</p> <p>3 interviewers, that sometimes that evokes strong</p> <p>4 emotions in the women.</p> <p>5 And so I think that, you know, there are</p> <p>6 some exposures that are sensitive, as I describe, that</p> <p>7 women might be hesitant to report. And I contrast</p> <p>8 that with things that are personal but not</p> <p>9 particularly sensitive.</p> <p>10 When a woman has agreed to be in a study,</p> <p>11 she knows that we're going to be asking some of these</p> <p>12 questions. And I have never heard any comments from</p> <p>13 any of the interviewers in the many studies I've done</p> <p>14 that this was a question that women felt uncomfortable</p> <p>15 with.</p> <p>16 Q. Do you acknowledge the possibility that a</p> <p>17 person's use of a cosmetic talcum powder in their</p> <p>18 genital region could be viewed by some as a sensitive</p> <p>19 topic?</p> <p>20 A. I -- again, I -- I kind of make the</p> <p>21 distinction between something that is personal -- and</p> <p>22 we ask them a lot of personal questions, but it's --</p> <p>23 I don't see any aspect of that that would seem</p> <p>24 particularly sensitive, why someone might be</p> <p>25 embarrassed or feel that someone was going to judge</p>	<p>1 thought to decrease risk. It's standard that you</p> <p>2 would not really discuss the hypotheses with the</p> <p>3 interviewers.</p> <p>4 And, similarly, when we invite or ask women</p> <p>5 to be in our studies, we will tell them that, you</p> <p>6 know, it is a study of ovarian cancer, but we're not</p> <p>7 telling them which factors we think might be</p> <p>8 associated with increased risk and which ones might be</p> <p>9 associated with decreased risk.</p> <p>10 Q. To support this statement, did you conduct</p> <p>11 any post-interview interviews?</p> <p>12 A. Can you restate that? Tell me -- I'm not</p> <p>13 sure what you're asking.</p> <p>14 Q. So to determine if study hypotheses were</p> <p>15 known to the study subjects at the time that they were</p> <p>16 asked the questions, there would be methods or ways to</p> <p>17 which you could find that out; correct?</p> <p>18 A. We -- I'm thinking about it. I have never</p> <p>19 known that to be -- I've never known a study that has</p> <p>20 done that.</p> <p>21 In one breast cancer study, at the end of</p> <p>22 the interview, we asked the women if they had any</p> <p>23 ideas about what caused breast cancer. And, you know,</p> <p>24 we thought it might maybe raise some new ideas, but we</p> <p>25 found that it was largely -- we didn't see anything</p>

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<p>1 that was usable. I think that the most common 2 response was that women thought it was stress. So -- 3 Q. But you don't have any evidence of anything 4 similar being done in the talc ovarian cancer 5 literature; correct? 6 A. Not to my knowledge. 7 Q. At the bottom of page 22, and then carrying 8 over through 23, you cite to the Lanza study; correct? 9 A. That's correct. 10 Q. And you cite Lanza for the proposition 11 that -- to provide "further evidence that recall bias 12 in case-control studies does not inevitably lead to an 13 overestimate." 14 Do you see where I was reading? It's at the 15 bottom of 22. 16 A. Yes. Yes, I see where you're reading. 17 Q. Lanza did not pertain to talc and ovarian 18 cancer; correct? 19 A. As I state in my report, yes. It's looking 20 at a variety of meta-analyses that looked at both 21 case-control studies and cohort studies. And the 22 point of that paper was to determine if recall bias 23 seemed to lead to a consistently increased risk. And 24 their conclusion, as I state in here, there's no 25 significant difference in the effect estimates between</p>	<p>1 are that the estimates did not differ between 2 case-control and prospective or retrospective cohort 3 studies; correct? 4 A. Where are you reading, please? 5 Q. I'm in the "Results" section. 6 A. Okay. Yes. 7 Q. And then they say, "Heterogeneity was also 8 low," below that; right? 9 A. Yes. 10 Q. Again, if I'm understanding this paper 11 correctly, the situation for talc and ovarian cancer 12 is completely different, isn't it? Where we do have 13 heterogeneity between the prospective studies and the 14 retrospective case-control studies; right? 15 MS. PARFITT: Objection. Form. 16 THE WITNESS: We have one example in 17 the talc and the -- and the ovarian cancer -- in the 18 meta-analyses, they did note some heterogeneity 19 between the cohort studies and the case-control 20 studies. 21 I think that the point that I was trying to 22 get with that is in the observational studies, there's 23 always concern, as several of these people have -- as 24 several of the meta-analyses and other papers have 25 reported, that the stronger association due to --</p>
<p style="text-align: center;">Page 227</p> <p>1 the case-control and cohort studies, suggesting that 2 the study design didn't have an important impact on 3 the conclusions of the meta-analyses. 4 MR. JAMES: Okay. I marked Lanza as 5 Exhibit 27. I'll hand you two copies. 6 (Exhibit No. 27 was marked for identification.) 7 BY MR. JAMES: 8 Q. And so Lanza concerns therapeutic 9 interventions; correct? 10 A. Yes. 11 Q. And isn't -- and correct me if I'm wrong 12 here, but looking at Lanza, isn't what Lanza doing is 13 they're comparing the odds ratios reached in both the 14 case-control studies and in the prospective studies on 15 a completely different body of literature; right? 16 A. It is not dealing with talc and ovarian 17 cancer, if that is your question. 18 Q. And they're looking at whether the results of 19 the case-control studies on that separate body of 20 literature and the results of the prospective cohort 21 studies on that separate body of literature reached 22 different results; right? 23 A. Yes. 24 Q. Okay. And so the author's conclusions in the 25 abstract here are -- which you note in your report --</p>	<p style="text-align: center;">Page 229</p> <p>1 among the case-control studies was due to some kind of 2 recall bias. 3 So the point is, if it was recall bias, you 4 would expect to see that case-control studies always 5 had higher estimates than the cohort studies; and this 6 study is making the point that in this wide variety of 7 interventions that they looked at, that doesn't seem 8 to be the case at all. Okay. 9 BY MR. JAMES: 10 Q. So, again, this study is saying, "Look, the 11 results of case-control studies and the results of 12 prospective cohort studies on these therapeutic 13 interventions are similar, same ballpark, and so thus, 14 we can conclude that recall bias in this body of 15 literature must not be a big deal." 16 Is that a layman's fair way to describe the 17 results of this paper? 18 MS. PARFITT: Objection. Form. 19 THE WITNESS: Yeah. I -- I mean, 20 I think that it's one part of the -- I think that, 21 overall, that's a pretty fair summary of the point 22 that this paper is making. So... 23 BY MR. JAMES: 24 Q. And if you acknowledge that in the talc 25 ovarian cancer literature, there is a disparity</p>

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<p>1 between the retrospective case-control studies and the 2 prospective cohort studies, then Lanza isn't really 3 applicable at all, is it?</p> <p>4 MS. PARFITT: Objection.</p> <p>5 THE WITNESS: It is -- I think that it 6 is very applicable because it's trying to get at the 7 recall -- is recall bias -- is that a problem in 8 case-control studies that is going to inevitably lead 9 to higher risk estimates than what you would get in 10 cohort studies?</p> <p>11 And as we have seen in these articles, we 12 see recall bias is frequently cited as a potential 13 reason that we saw stronger associations in 14 case-control studies than cohort studies.</p> <p>15 And I think this paper is really pointing 16 out that that's not inevitable, that you're always 17 going to have higher estimates with case-control 18 studies than cohort studies.</p> <p>19 Specifically in relation to the 20 heterogeneity between the cohort studies and the 21 case-control studies in talc, I think that we have to 22 consider other biases that may be operating.</p> <p>23 BY MR. JAMES:</p> <p>24 Q. I mean, the justification for the Lanza 25 conclusions is that the results in the two study</p>	<p>1 Q. If you're looking at Lanza objectively, 2 doesn't it say exactly the opposite of what you're 3 saying here, Doctor?</p> <p>4 I mean, again, the justification for Lanza 5 is the results are the same, and so recall bias isn't 6 a problem. But that justification doesn't exist in 7 the world of talc ovarian cancer.</p> <p>8 That will be my last question on that.</p> <p>9 A. No. I think that this addresses the recall 10 bias in the -- you know, I acknowledge it doesn't 11 directly address talc and ovarian cancer in this 12 paper; but it does address this -- this commonly-cited 13 thing that, you know, recall bias in case-control 14 studies could lead to higher risk estimates. And it's 15 saying that's not necessarily the case always.</p> <p>16 Q. I promised that was my last question --</p> <p>17 A. Okay.</p> <p>18 Q. -- so we'll move on.</p> <p>19 The third factor that you discuss as a 20 particular threat for recall bias is if there is 21 considerable media attention.</p> <p>22 Do you see where I've returned back to on 23 page 22?</p> <p>24 21 is where you -- 21 through 22 is where 25 you lay out the three reasons. At the top of 22, you</p>
<p>1 designs are pretty much the same. So these two study 2 designs didn't reach different results. And so in 3 this body of literature, we don't really need to be 4 worried about recall bias. Recall bias was not 5 operating to create a disparity of results in this 6 body of literature.</p> <p>7 But, in contrast, in the talc ovarian cancer 8 world, there is a disparity in the results by study 9 design; right?</p> <p>10 A. We've already acknowledged there is some 11 heterogeneity in results. Is it due to recall bias? 12 Is it -- do we have to assume that recall bias is in 13 play here and that explains the higher -- or the 14 stronger associations generally reported in the 15 case-control studies.</p> <p>16 And this article is addressing one -- one 17 potential bias, the recall bias. And I don't -- 18 I think that it provides support that we cannot just 19 do a knee-jerk reaction of "case-control studies, they 20 have the potential for recall bias, that leads to 21 higher estimates, and therefore, these studies are 22 biased."</p> <p>23 There are other biases in play in the cohort 24 studies that I think are very plausible explanations 25 for why there might be some differences.</p>	<p>1 say "considerable media attention."</p> <p>2 A. Yes.</p> <p>3 Q. And then you evaluate the media attention 4 factor on the following page; right?</p> <p>5 A. On page 23, yes.</p> <p>6 Q. On 23, you say that, for the media attention 7 concern, you say in the middle of the first full 8 paragraph (as read):</p> <p>9 "The concern is not relevant to 10 the vast majority of the studies 11 as virtually all the data 12 collection in the epidemiologic 13 studies of talc and ovarian cancer 14 occurred prior to such 15 litigation."</p> <p>16 Do you see that?</p> <p>17 A. Yes, I do.</p> <p>18 Q. And you agree that media attention is not 19 limited to litigation; correct?</p> <p>20 A. Yes.</p> <p>21 Q. Did you undertake any effort to analyze the 22 extent of publicity or media attention to the talc 23 ovarian cancer issue prior to 2014?</p> <p>24 A. I did not do any specific analysis of that. 25 I personally was unaware of any media attention on</p>

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<p>1       this topic prior to the litigation. 2       Q. Then I believe on page 23, you go on to 3       discuss the Schildkraut 2016 paper; correct? 4       A. Yes. 5       Q. Okay. And if we can pull that back out. It 6       is the exhibit -- did I mark it? 7           MS. PARFITT: I don't think so. 8           MR. JAMES: Okay. I'll mark it as the 9       next one, so you don't have to fish for it here. It's 10      Exhibit 28. 11      (Exhibit No. 28 was marked for identification.) 12      MR. JAMES: Which is the Schildkraut 13      2016 paper. I'll hand you two copies. 14      BY MR. JAMES: 15      Q. And so we touched upon this a bit earlier, 16      Dr. Moorman, where we talked about the phraseology 17      where you say the association was "attenuated but not 18      eliminated." 19      Do you recall that exchange we had earlier? 20      THE WITNESS: Yes, I do. 21      BY MR. JAMES: 22      Q. Okay. And in this 2016 paper, again, you, 23      among the authors, compared the odds ratios for talc 24      and ovarian cancer for participants before 2014 and 25      for participants after 2014; correct?</p>	<p>1       Q. And you -- I believe this table reflects -- 2       though I'm still looking for it, and maybe you can 3       help me with it -- but the data in this table reflects 4       that pre-2014 interviewees reported talc usage at the 5       rate of 36 percent, and post-2014 interviewees 6       reported rates -- excuse me, reported usage at the 7       rate of 51 percent. 8       A. Yes, I see that in the table. 9       Q. And so that's a significant disparity in 10      reported usage rates; would you agree with that? 11      MS. PARFITT: Objection. Form. 12      THE WITNESS: Clearly, it is what it 13      is. It's 36 percent as -- versus 51 percent. Okay. 14      BY MR. JAMES: 15      Q. And so we have your paper here showing that 16      before 2014, before the onset of the litigation, you 17      had study participants reporting talc usage at a lower 18      rate; right? 19      A. Than -- yes. 20      Q. And if you isolated the association analysis 21      to those -- to that group, you also have a 22      non-statistically significant association; correct? 23      A. And again, when you stratify -- we've already 24      covered that. I acknowledge that prior to 2014, it 25      was not statistically significant. We also indicated</p>
<p style="text-align: center;">Page 235</p> <p>1       A. Correct. 2       Q. And if we look at page 1414 -- I'm looking 3       for my place here. 4       If you look at Table 2, Dr. Moorman, you see 5       there where you have broken out the data on interview 6       date after 2014; right? 7       A. Yes. 8       Q. And then above that is the interview date 9       before 2014; correct? 10      A. Yes. 11      Q. And we see that the odds ratio here for 12      interview date after 2014 is 2.91; correct? 13      A. That is correct. 14      Q. That's well in excess of any odds ratio 15      reported in any of the meta-analyses; correct? 16      A. For the overall summary odds ratio, yes. 17      Q. And before 2014, we see that the odds ratio 18      is a 1.19 that is not statistically significant, which 19      is what we discussed earlier; correct? 20      A. Yes, we discussed that earlier. 21      Q. And you also report in this article a 22      distinction between the pre-2014 interviewees and the 23      post-2014 interviewees based upon their reported talc 24      usage; right? 25      A. Yes.</p>	<p style="text-align: center;">Page 237</p> <p>1       certainly in the range of what many other studies have 2       seen. But when you stratify like that, you are 3       getting into smaller sample sizes. So there's 4       statistical significance that -- the fact that it's no 5       longer statistically significant is not all that 6       surprising. 7       Q. Have you seen the Trabert editorial that 8       followed the publication of the Schildkraut article? 9       A. I'm sure that I have read it at some point, 10      but -- 11      Q. Okay. I'm going to -- I'm sorry. 12      A. -- please, let's -- I haven't looked at it in 13      quite some time. 14      Q. So I'm going to mark as Exhibit 29 an 15      editorial by Britton Trabert entitled "Body Powder and 16      Ovarian Cancer Risk -- What is the Role of Recall 17      Bias?" 18      I'll hand you two copies. 19      (Exhibit No. 29 was marked for identification.) 20      BY MR. JAMES: 21      Q. Dr. Moorman, does this editorial look 22      familiar to you? Have you seen it before? 23      A. Yes, I have seen it before. 24      Q. Have you ever spoken with or communicated 25      with Britton Trabert about this editorial?</p>

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<p>1       A. No, I have not.</p> <p>2       Q. And you see that in the right-hand column,</p> <p>3       about midway down, Dr. Trabert refers to the data</p> <p>4       points that we were just discussing; correct?</p> <p>5       A. Yes.</p> <p>6       Q. And if you look to the second page of the</p> <p>7       editorial, Trabert reports, at the last paragraph of</p> <p>8       the article (as read):</p> <p>9             "The current study highlights the</p> <p>10          concern over recall bias in</p> <p>11          case-control studies, particularly</p> <p>12          once an exposure becomes the</p> <p>13          subject of considerable media</p> <p>14          coverage."</p> <p>15        Do you see where I was reading that?</p> <p>16        A. Yes, I do.</p> <p>17        Q. Do you agree with Dr. Trabert's concerns</p> <p>18        about media coverage impacting the results of the</p> <p>19        Schildkraut study?</p> <p>20        A. I -- I think that the investigators on our</p> <p>21        study, they had that concern. That's why we did those</p> <p>22        analyses. So...</p> <p>23        Q. So do you acknowledge the possibility that</p> <p>24        the results of the 2016 study may reflect recall bias</p> <p>25        in the study?</p>	<p>1       possibility of recall bias, but I think that we looked</p> <p>2       at the other side of the coin as well.</p> <p>3       Q. And can you tell me where you're reading that</p> <p>4       sentence from, Dr. Moorman?</p> <p>5       A. Let's see. The -- it is on page 1416, the</p> <p>6       right-hand column, and it's about -- probably about</p> <p>7       eight or nine lines down.</p> <p>8       So I think that this sentence -- or this</p> <p>9       whole paragraph gives a pretty balanced assessment of</p> <p>10      the data, that we thoughtfully considered the issue of</p> <p>11      recall bias, but we also considered that maybe the</p> <p>12      greater publicity led to -- was kind of a memory</p> <p>13      trigger that led to more accurate recall.</p> <p>14      Q. And in your report, do you include a caution</p> <p>15      on the Schildkraut 2016 study about the potential for</p> <p>16      recall bias based upon the 2014 pre- and post-data?</p> <p>17      A. I -- let's see. We have discussed that</p> <p>18      section of the report a couple of times already. And</p> <p>19      I state that there is the possibility that recall bias</p> <p>20      could have led to the higher odds ratios when</p> <p>21      including women interviewed during the time when there</p> <p>22      was more media attention focused on this exposure.</p> <p>23      Q. And you're at page 23; right?</p> <p>24      A. Yes.</p> <p>25      Q. Okay. And then you conclude the middle</p>
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<p>1       A. In this discussion -- if I may take just a</p> <p>2       moment to --</p> <p>3       Q. Certainly.</p> <p>4       A. Okay. You know, I think that</p> <p>5       Dr. Schildkraut, who did the major writing of this</p> <p>6       article -- and I think all of the coauthors were in</p> <p>7       agreement -- that we were concerned about the recall</p> <p>8       bias. As I said, that was some of the reason for</p> <p>9       doing those analyses.</p> <p>10      I think that it's also important to point</p> <p>11      out here the other possibility. There may have been</p> <p>12      some recall bias. But she also makes the statement</p> <p>13      that (as read):</p> <p>14             "It is possible that the lawsuit</p> <p>15            sharpened memories of body powder</p> <p>16            use and improved the accuracy of</p> <p>17            reported use for both cases and</p> <p>18            controls interviewed in 2014 or</p> <p>19            later."</p> <p>20      I think that that goes to say that anytime</p> <p>21      someone -- you know, there's some memory trigger, it</p> <p>22      could have made actually more accurate recall.</p> <p>23      So we --</p> <p>24      Q. And Dr. --</p> <p>25      A. I'm sorry. So we acknowledge both the</p>	<p>1       paragraph with the statement that -- the "attenuated</p> <p>2       but not eliminated" statement. But I'm not going to</p> <p>3       ask about that again. But you go on in that sentence</p> <p>4       to say (as read):</p> <p>5             "The association is not due</p> <p>6            entirely to recall bias."</p> <p>7        Do you see that phrasing that I just read?</p> <p>8        A. Yes.</p> <p>9        Q. So are you conveying in that wording that you</p> <p>10      think some portion of the odds ratio that you are</p> <p>11      seeing in these case-control studies that you're</p> <p>12      relying on or the meta-analyses that you're relying</p> <p>13      on, that some portion of that odds ratio is</p> <p>14      attributable to recall bias?</p> <p>15      MS. PARFITT: Objection.</p> <p>16      THE WITNESS: I think that probably</p> <p>17      every meta-analysis published, probably every</p> <p>18      case-control study that was published, we acknowledge</p> <p>19      this as a -- recall bias is a potential bias. But</p> <p>20      I think that we went on to give evidence --</p> <p>21      I explained why I did not think that it was a complete</p> <p>22      explanation.</p> <p>23      Can we completely rule out any possibility</p> <p>24      of recall bias? I don't know that we can do it. But</p> <p>25      I think that as -- for some of the reasons</p>

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<p>1 I articulated. 2 I know that Dan Cramer in his 2016 paper 3 also went into great detail considering the issue of 4 recall bias. And I don't think that we can attribute 5 this association to recall bias. 6 BY MR. JAMES: 7 Q. Can you cite to any publication that has 8 analyzed the literature and ruled out recall bias -- 9 MS. PARFITT: Objection. 10 BY MR. JAMES: 11 Q. -- as a method -- as a basis for the elevated 12 odds ratio of the 1.2 to 1.3 that you're citing in 13 your report? 14 MS. PARFITT: Objection. 15 THE WITNESS: Okay. I went back to the 16 Dan Cramer article, and I'm hoping that I'm recalling 17 that particular article, the date of it, accurately. 18 But he did analyze the data and the degree of 19 misclassification that would have had to occur for 20 recall bias to account for this association. He gave 21 other reasons for why it seemed unlikely that recall 22 bias would account for this association. 23 So I think he did a pretty thorough 24 analysis -- a thoughtful analysis of it. 25</p>	<p>1 Q. Okay. Dr. Moorman, on page 11 of your 2 report, you talk about -- this is where you begin your 3 analysis of the Bradford Hill factors. 4 A. Yes. 5 Q. And are you there with me? 6 A. Yes, I am. 7 Q. Okay. You say, in page 11 -- you have a 8 section titled "Strength and consistency of the 9 association"; correct? 10 A. Correct. 11 Q. You say in the first sentence that strength 12 and consistency are "deeply intertwined." Correct? 13 A. Yes. 14 Q. Can you cite to any publication where you 15 have combined the analysis of strength and consistency 16 before? 17 A. I -- I can't cite any publication that 18 specifically addresses that, no. 19 Q. Can you cite any published authority that 20 states these two Bradford Hill criteria are deeply 21 intertwined? 22 A. I -- I think that as I was -- I cannot cite a 23 published authority. 24 I think that, again, this is based on when 25 I was looking at these and how I was weighting these</p>
<p>1 BY MR. JAMES: 2 Q. Can you cite any other publications other 3 than the Cramer 2016 paper, sitting here today, that 4 have addressed recall bias in the fashion that you 5 just described? 6 A. The Cramer article is the one that I -- that 7 comes to mind as the one that addressed it most 8 thoroughly. 9 Q. Have you ever published the three factors 10 that you have addressed with regard to recall bias? 11 A. The three factors are -- 12 Q. Sure. So -- 13 A. Okay. 14 Q. Within your report, you -- we just walked 15 through the three factors that you've considered, the 16 three factors that you deemed to be a particular 17 threat to case-control studies for recall bias; 18 correct? We just walked through those three? 19 A. Yes. 20 Q. Have you ever published those three in any 21 article or journal or anything else? 22 A. I have not published that. That is just 23 based on my general epidemiologic knowledge from doing 24 this type of research and teaching in this field for 25 the last couple of decades.</p>	<p>1 considerations. 2 Q. Do you agree that strength is an important 3 criteria in and of itself? 4 A. I think that the strength of the association 5 is an important criteria, but I think that we also 6 have to bear in mind that as -- that there are many 7 well-established causal associations that are 8 certainly not in the order of magnitude of what we 9 see, for example, with smoking and lung cancer. 10 Q. Do you think the criteria of strength is met 11 with the talc and ovarian cancer literature? 12 A. When -- as I go through my report, I give 13 numerous examples of well-accepted causal associations 14 that are of a similar magnitude as what we see with 15 talc and ovarian cancer, and so I think that the data 16 are strong enough. 17 Q. And I think that I'm going to ask my question 18 again. 19 A. Okay. 20 Q. Do you think that the criteria of strength is 21 met with the talc and ovarian cancer literature? 22 A. Okay -- 23 MS. PARFITT: Objection. Asked and 24 answered. 25 Try again, Dr. Moorman.</p>

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<p>1           THE WITNESS: Okay. So, once again, 2   I -- we have to use -- we have to be careful of -- 3   Dr. Hill did not refer to these as "criteria," but 4   guidelines or viewpoints I think was the terminology 5   he used. And I do think that the criteria of strength 6   has been met.</p> <p>7   BY MR. JAMES:</p> <p>8   Q. Can you cite to a single study in the talc 9   ovarian cancer literature that refers to the 10   association as a strong association?</p> <p>11   A. I -- I cannot, off the top of my head, think 12   of anyone that refers to it as a strong association. 13   I do, once again, want to say that we see evidence of 14   causal associations of similar magnitude; so I think 15   that it is strong enough to be a causal association.</p> <p>16   Q. Do you understand that a number of the papers 17   that you have cited in your reference list or 18   materials-considered list refer to the association as 19   weak?</p> <p>20   MS. PARFITT: Objection.</p> <p>21   THE WITNESS: Which papers are you 22   referring to specifically?</p> <p>23   BY MR. JAMES:</p> <p>24   Q. If an author in the talc ovarian cancer 25   literature has referred to the association as a weak</p>	<p>1           MR. JAMES: It hasn't been answered. 2           MS. PARFITT: It's been asked.</p> <p>3           THE WITNESS: I don't think that we 4   have any actual definition of what is modest. I think 5   that the association is what it is, a 25 to 30 percent 6   increased risk.</p> <p>7   BY MR. JAMES:</p> <p>8   Q. As an epidemiologist, you're not capable of 9   discerning whether an association is modest or not 10   modest?</p> <p>11   MS. PARFITT: Objection.</p> <p>12   THE WITNESS: As I have said before, 13   I don't think there is any clear definition of that 14   adjective.</p> <p>15   BY MR. JAMES:</p> <p>16   Q. Is there a definition in the epidemiologic 17   community of a weak association? Are you able to 18   understand what that would mean in the epidemiologic 19   community?</p> <p>20   A. Once again, there is no -- to my knowledge, 21   there is nothing that would say, you know, an odds 22   ratio in this range is weak, this is modest, this is 23   moderate, this is strong.</p> <p>24   And, again, going back to Bradford Hill, he 25   certainly emphasizes that there are some associations</p>
<p>1           association, would you agree or disagree with that 2   characterization?</p> <p>3   MS. PARFITT: Object to form.</p> <p>4   THE WITNESS: I would disagree with 5   the -- I would disagree with that.</p> <p>6   BY MR. JAMES:</p> <p>7   Q. If an author or authors in the talc ovarian 8   cancer literature have referred to the association as 9   modest, would you agree or disagree with that?</p> <p>10   A. Once again, I think that many of the risk 11   factors that we are considering are not going to be 12   the odds ratios of 10 or greater that we saw with 13   this.</p> <p>14   And when you read the papers written by 15   Dr. -- by Bradford Hill, he certainly makes the point 16   that some weaker associations can certainly be real.</p> <p>17   Q. So is this a weaker association?</p> <p>18   A. Weaker is in comparison to what? It's not -- 19   it's weaker than smoking and lung cancer. It is -- 20   I keep making the point that it -- we fully 21   acknowledge that it is not a tenfold increased risk. 22   It's a 25 to 30 percent increased risk.</p> <p>23   Q. Would you call the association modest?</p> <p>24   MS. PARFITT: Objection. Asked and 25   answered.</p>	<p>1           that are not in the magnitude of smoking and lung 2   cancer, but they are certainly real.</p> <p>3   Q. And I think you're conflating -- or you're 4   misunderstanding my question, because you're answering 5   the question about whether the association is real or 6   not real, and my question for you is whether the 7   association is weak, modest, or strong.</p> <p>8   How would you characterize it?</p> <p>9   A. And I would -- as I have said, there is no 10   absolute terminology that would say what is a weak 11   association, what is modest, and what is strong. So 12   I think that it is more accurate just to describe it 13   as it is, a 25 to 30 percent increased risk of ovarian 14   cancer.</p> <p>15   Q. Well, in assessing the Bradford Hill factors 16   or considerations or criteria -- in assessing that and 17   determining whether the association is strong or not 18   strong, as an epidemiologist, don't you need to be 19   capable of determining whether the association is 20   strong or not strong?</p> <p>21   A. Once again, it is an adjective that is not 22   well defined. And --</p> <p>23   Q. And do you -- I'm sorry.</p> <p>24   A. I -- I -- I keep going back to I think that 25   the association that we see is what it is, a 25 to</p>

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<p>1    30 percent increased risk. It is consistent with 2    other factors that we consider causal associations. 3    They have a similar strength of association. 4       Q. And I do -- I do intend to go to that very 5    next topic next -- 6       A. Okay. 7       Q. -- but in assessing strength, what I'm asking 8    is whether, in all of the papers that you've cited, 9    when the epidemiologists that you've cited refer to 10   the association as weak or modest or small, is that 11   terminology that you can accept, or is that 12   terminology that you reject? 13       A. I say that it is terminology that is 14   imprecise. What one would consider modest, someone 15   else might consider moderate. It's imprecise 16   terminology. 17       Q. And certainly in the epidemiology world, if 18   you have a small or modest or weak association, what 19   you're saying is that that doesn't bar a causal 20   conclusion. But wouldn't you agree with me that if 21   the association is small or modest or weak, it makes 22   the other considerations more important? 23       MS. PARFITT: Objection. 24       THE WITNESS: I think that all of the 25   considerations are important. It's --</p>	<p>1       A. Yes. 2       Q. And these associations that you've listed, 3    you have concluded are generally accepted to be 4    causal; correct? 5       A. I think so, yes. 6       Q. And below that, you state that the IARC has 7    reached a causal conclusion with respect to each of 8   these associations; is that right? 9       A. Yes, that is what I state. 10      Q. And so to state that, are you saying that all 11   five of these exposures and associations have been 12   classified by IARC as Category 1? 13      A. I don't recall if -- I don't recall the 14   classifications, specifically, for all of these. 15      Q. Well, to say that the IARC has made a causal 16   judgment on these associations, you are necessarily 17   saying that they have classified these associations as 18   Category 1; correct? 19      A. I -- you know, I answered the question. 20      I don't recall which IARC category that each of these 21   exposures is right off the top of my head. 22      Q. But do you say in the report that they are 23   judged to be causal by IARC; correct? 24      A. I do say that in my report. 25      Q. And IARC has not judged talc ovarian cancer</p>
<p style="text-align: center;">Page 251</p> <p>1    BY MR. JAMES: 2       Q. Do you agree that, with a small association, 3    there's more concern for recall bias? 4       MS. PARFITT: Objection. 5       THE WITNESS: I think that with a 6    smaller association, there is more concern that it 7    could be due to bias from various reasons. 8    BY MR. JAMES: 9       Q. Can you cite to any scientific agency or 10   organization that has described the talc ovarian 11   cancer association as strong? 12       A. I do not recall anyone describing it that 13   way. 14       Q. Okay. And then we will turn now to page 12 15   of your report, Dr. Moorman, where you cite a number 16   of other exposures. 17       A. Yes. 18       Q. And do you see where I am? 19       A. Yes. 20       Q. And you say on page 12 that (as read): 21       "Well-accepted exposure to these 22   associations have relative risks 23   of similar magnitude and are 24   generally accepted to be causal." 25       Do you see where I was reading?</p>	<p style="text-align: center;">Page 253</p> <p>1    to be a causal association, has it? 2       A. As we have discussed several times today, 3    they describe it as possibly carcinogenic. 4       Q. Can you cite to any publication that assesses 5    the strength of an epidemiologic association by 6    considering "similar magnitude" odds ratios from 7    unrelated exposures to diseases? 8       A. I -- off the top of my head, I can't cite any 9    such publication. 10      Q. Have any scientific agencies that have looked 11   at this issue assessed strength of the talc ovarian 12   cancer relationship by considering similar magnitude 13   associations of unrelated exposures to diseases? 14      A. I know that in the Health Canada report, they 15   went through assessing the strength of the 16   association. I don't recall if they kind of 17   considered it in relation to other exposures that have 18   a similar magnitude of association. 19       Q. With regard to the associations that you have 20   identified on page 12, did you review the entire body 21   of scientific and medical literature pertaining to 22   those associations? 23       A. In -- let's see. Since when I cited these, 24   I did not go through the same level of detail like 25   I have done for the talc and ovarian cancer.</p>

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<p style="text-align: center;">Page 254</p> <p>1        The oral contraceptive use and breast cancer 2        that I cite, I was part of a team of researchers that 3        did a systematic review and meta-analysis of oral 4        contraceptives in relation to ovarian cancer as well 5        as breast cancer and some other cancers. 6        The other ones, again, I did not go in -- 7        did not review the body of literature in the same 8        detail as I did the talc and ovarian cancer. 9        Q. Did you assess, in any of these bodies of 10      literature, the risks for recall bias? 11      A. I did not. 12      Q. Did you consider, in these bodies of 13      literature, biologic mechanism for these five 14      exposures that you've identified? 15      A. I considered biologic mechanism, again, not 16      in the level of detail with the talc and ovarian 17      cancer. 18      Q. Did you assess them in a manner sufficient to 19      which you would opine in a published article or a 20      litigation report about the evidence supporting 21      causation? 22      A. I'm reading your question again. 23      Q. So am I. 24      A. I'm not sure. 25      Q. For these five exposures and diseases that</p>	<p style="text-align: center;">Page 256</p> <p>1        BY MR. JAMES: 2        Q. So in your report, when you are assessing 3        strength, and you discuss the fact that there are 4        similar magnitude odds ratios from other exposures 5        upon which one could conclude causation, you do not 6        also remark that there are similar magnitude ratios 7        upon one which could not conclude causation. 8        Why is that? Why did you lay out the 9        analysis this way? 10      A. What I was trying to do here is to make the 11      point that an association in the range of a 25 to 12      30 percent increased risk is something that there are 13      multiple examples of this being generally accepted as 14      a causal association. 15      I -- it was not my intent to describe the 16      entire universe of exposures and some that might be in 17      this range. 18      Q. There are certainly examples that you didn't 19      cite in the 1.2 to 1.3 range that are not causal; 20      right? 21      A. Did you have something specific in mind that 22      you are -- 23      Q. I'm asking you, actually. 24      Did you just go searching for similar 25      magnitude ratios upon which one could reach a</p>
<p style="text-align: center;">Page 255</p> <p>1        you've cited on page 12, did you assess the body of 2        scientific and medical literature and evidence in a 3        manner sufficient to which you would feel comfortable 4        offering an opinion in the published literature or in 5        a litigation report about causation? 6        A. I think that I have answered the question 7        repeatedly that I did not do it in the detail that 8        I did the talc and ovarian cancer. If I were to put 9        in published literature or a litigation report, 10      I would want to make sure that I had done it as 11      absolutely thoroughly as possible. 12      Q. Your comparison of the odds ratios to these 13      five exposures -- you acknowledge that there are 14      exposures that you have not identified in your report 15      that are in the 1.2 to 1.3 range that are not causal 16      or have not proven to be causal; correct? 17      MS. PARFITT: Objection. Form. 18      THE WITNESS: I acknowledge that -- of 19      course, that there are reports of exposures that have 20      reported relative risk in this range, and it could 21      either be something that was associated with another 22      risk factor and it was not the causal factor or the 23      level of evidence was not adequate. Maybe people -- 24      there were fewer articles, people have not gone 25      through the whole evaluation of the causal criteria.</p>	<p style="text-align: center;">Page 257</p> <p>1        causation conclusion? 2        A. I -- I think that I was trying to get at that 3        is this association strong enough to be causal? And 4        we have evidence from these other exposures that, yes, 5        it's certainly possible. 6        The point is that you do not -- or you do 7        not dismiss an association of 1.25 or 1.3 as it 8        couldn't possibly be causal. We have evidence to 9        suggest that it -- there are many examples of it. 10      Q. But in your report, Dr. Moorman, you're not 11      just not dismissing it. You're not just using the 12      similar magnitude odds ratios to not dismiss the 13      possibility that this is a real association. You're 14      using the similar magnitude ratios in an effort to 15      ascribe strength to the association; correct? 16      A. Right. I am saying that I think this is 17      strong enough to be a real association, and I think 18      that we have other examples of similar magnitude 19      associations that are generally accepted as causal 20      associations. 21      Q. But if there are other odds ratios for other 22      exposures to diseases that you did not identify in 23      your report in the 1.2 to 1.3 range that are not 24      causal, then the magnitude ratio that you have here in 25      the top ovarian cancer literature, in that instance,</p>

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<p>1 is not strong enough to support causation?</p> <p>2 MS. PARFITT: Objection. Form.</p> <p>3 BY MR. JAMES:</p> <p>4 Q. I'll just restate it because it's confusing.</p> <p>5 A. Yeah, it is.</p> <p>6 Q. To support strength in your report, why do you select only similar magnitude ratios that, by your estimation, are Category 1 -- by your estimation, have been declared by IARC to be causal associations? Why do you only select associations by which one has -- by which IARC has concluded causation? Why don't you also acknowledge that there are associations of a similar magnitude that don't support causation?</p> <p>14 MS. PARFITT: Objection.</p> <p>15 THE WITNESS: I'm not really sure -- I'm still not really sure what you're getting at with this question.</p> <p>18 I think that I was trying to make the point that the association we see here is strong enough to be accepted as a causal association. I'm not -- I'm not saying that every association of this magnitude has gone through the same process of assessing all of the Bradford Hill viewpoints and have come to the same conclusion, but I am saying that we have multiple examples of where an association of this magnitude is</p>	<p>1 Do you see where I'm reading that?</p> <p>2 A. Yes.</p> <p>3 Q. There, are you referring to epidemiologic literature?</p> <p>5 A. What -- you're taking one sentence and -- I think that I discussed what I considered related to the passive smoke exposure and lung cancer and described it in more detail on page 13, the first full paragraph.</p> <p>10 Q. And is it fair to say that that body of evidence that you're referring to there is the epidemiologic literature?</p> <p>14 Q. You're not referring there to any sort of mechanistic studies or plausibility studies or anything like that; correct?</p> <p>17 A. No. I was looking at -- basically, I was comparing the two -- or the meta-analyses for the two topics.</p> <p>20 Q. On page 14, Dr. Moorman, you discuss the prevalence of exposure.</p> <p>22 Do you see where I am? It's the --</p> <p>23 A. It's about halfway down?</p> <p>24 Q. Yeah, second full paragraph.</p> <p>25 A. Yes.</p>
<p>1 causal.</p> <p>2 MS. PARFITT: Scott, is this a breaking point or no?</p> <p>4 MR. JAMES: How long have we been going?</p> <p>6 MR. FARIES: About an hour and 15.</p> <p>7 MS. BRENNAN: Yeah, we've been going about an hour and 15.</p> <p>9 MR. JAMES: Sure. Are we ready for a break?</p> <p>11 MS. PARFITT: Sure. Just a short one, yeah. Thank you.</p> <p>13 THE VIDEOGRAPHER: Going off the record at 4:33 p.m.</p> <p>15 (Recess taken from 4:33 p.m. to 4:46 p.m.)</p> <p>16 THE VIDEOGRAPHER: Back on record at 4:47 p.m.</p> <p>18 BY MR. JAMES:</p> <p>19 Q. Dr. Moorman, on page 13 to 14 of your report, and really the top of page 14, you have a sentence stating that (as read):</p> <p>22 "The evidence for talc and ovarian cancer is as significant as for</p> <p>23 passive smoke exposure and lung</p> <p>24 cancer."</p>	<p>1 Q. And you say that it's critical to consider the prevalence of exposure in conjunction with considering strength; correct?</p> <p>4 A. I say (as read):</p> <p>5 "It's critical to consider the prevalence of the exposure in the population when evaluating its public health impact."</p> <p>9 Q. Before that, you say "in conjunction with the strength of the association." Right?</p> <p>11 A. Yes.</p> <p>12 Q. Okay. Do you think that the prevalence of exposure in the population, that that impacts your analysis on whether an association is strong or not strong?</p> <p>16 A. I think that the way that I stated it here is, you know, as an epidemiologist, a public health professional, I'm interested in the public health impact and how many cases of disease could be attributable to this exposure.</p> <p>21 So I go through and describe that factor that has a stronger association but is less common in the population could have potentially less public health impact than a risk factor that is -- doesn't have as high an odds ratio but you have many more</p>

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<p>1 exposed people in the population. 2 Q. Moving on to consistency, Dr. Moorman, is 3 consistency met on this body of literature? 4 A. I do feel that consistency is met. 5 Q. And on page 14, you -- I think it's page 14. 6 Yes. In the first full paragraph, you discuss your -- 7 you see the last sentence of that paragraph, where you 8 say (as read): 9       "This observation has been quite 10      consistent with findings 11      replicated in studies conducted by 12      different teams of investigators 13      in different geographic locations 14      and different race ethnic groups 15      over a span of several decades." 16     Do you see that? 17     A. Yes, I do. 18     Q. Is that reflective of -- is that the basis 19      upon which you conclude consistency is met? 20     A. It is part of the basis of it. I think that, 21      when we look at the overall meta-analyses, we look at 22      the direction of the effect in all the studies and of 23      these, like, 27 different studies, like, 90 percent of 24      them show an increased -- or an odds ratio greater 25      than 1.</p>	<p>1 cancer? 2 A. They -- if we can go back to them, we see 3 that there are multiple studies from the Nurses' 4 Health Study, and then the Houghton study. They are 5 showing a relative risk in most cases, I think, 1.12 6 to 1.19. And, again, we have discussed some of the 7 biases that might result in an attenuation of the 8 association. 9     And so I acknowledge that, with the 10 exception of the serous invasive cancer in one of the 11 studies, the associations have not been statistically 12 significant, but they are certainly kind of in the 13 direction of -- as the case-control studies. 14     Q. Doctor, let's turn back briefly to the 15 Houghton study. It's Exhibit 25. 16     Are you with me? 17     Dr. Moorman, if we look at the Houghton 18 study on the first page in the results section of the 19 abstract. Do you see where I'm looking? 20     A. Yes. 21     Q. Okay. The authors there, they report 22 every-use odds ratio as a 1.06. 23     Do you see that? 24     A. I do see that -- 25     Q. Okay. I'm running out of time, Dr. Moorman,</p>
<p>1 When we look at epidemiologic data, for 2 reasons that we have discussed earlier today, it is 3 very uncommon for every single study to reach the same 4 conclusion. Some are going to have higher risk; some 5 are going to be lower risk. And the level of 6 consistency seen here, where virtually every study is 7 showing an odds ratio greater than 1, I consider that 8 quite consistent. 9     Q. You understand that Bradford Hill, when he 10 describes consistency, he talks about consistency 11 across study design. 12     Were you aware of that? 13     A. Yes, I am. And I actually do -- the way that 14 I described consistency, where even, you know -- two 15 of the three cohort studies -- and we've already 16 discussed the concerns I have about the Sister Study, 17 which is really quite an outlier when we look at this 18 whole body of literature. But both the Houghton study 19 and the Nurses' Health Study, they are consistent in 20 terms of the direction of the effect. And we have 21 discussed the statistical significance at all. 22     But in terms of the direction of the effect, 23 I think that it is consistent. 24     Q. So is your position that the cohorts 25 demonstrate an association between talc and ovarian</p>	<p>1 so I really am going to ask you to answer my precise 2 question. 3     Do you see where the authors, they say 4 there -- the authors say that it's "not associated 5 with risk of ovarian cancer compared with never-use." 6     Do you see that? 7     A. Yes, that is what they state. 8     Q. Okay. And 1.06 is -- again, it's not a 9 statistically significant association; correct? 10     A. With the confidence interval that they 11 report. That's what tells you whether or not it's 12 statistically significant. And with that confidence 13 interval, no, it is not statistically significant. 14     Q. And it's also very close to the null, isn't 15 it? 16     A. Yes. It's the 1.06, yes. 17     Q. And the conclusion of the authors here is 18 that (as read): 19       "Perineal powder use does not 20 appear to influence ovarian cancer 21 risk." 22       Correct? 23     A. That's what they state, yes. 24     Q. So this is one of the cohorts that you're 25 talking about today; correct?</p>

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<p>1        A. Right. And --</p> <p>2        Q. And the authors here conclude that there's</p> <p>3        not an association between ovarian cancer risk and</p> <p>4        perineal talc use, don't they?</p> <p>5            MS. PARFITT: Objection. Form.</p> <p>6        THE WITNESS: Okay. Yes, I acknowledge</p> <p>7        that's their conclusion. And I think that -- I'm</p> <p>8        sorry -- the data that I was referring to comes from</p> <p>9        Table 3. And I, again, acknowledge that it was not</p> <p>10       statistically significant, but he said only genital</p> <p>11       powder use -- which is mostly what we're</p> <p>12       considering -- it had a hazard ratio of 1.4 or 1.3 --</p> <p>13       I'm sorry -- 1.14 or 1.13.</p> <p>14       And so, again, it's in the direction of</p> <p>15       effect, and, as we have discussed, biases could have</p> <p>16       led to some attenuation.</p> <p>17       BY MR. JAMES:</p> <p>18       Q. Are you saying that you believe that there's</p> <p>19       consistency among -- or between the case-control</p> <p>20       studies and the cohort studies in the talc ovarian</p> <p>21       cancer literature?</p> <p>22       A. I am saying that -- as I have pointed out</p> <p>23       here and with also the Nurses' Health Study, I am</p> <p>24       saying that there is consistency in the direction of</p> <p>25       the effect that they observed, and acknowledging that</p>	<p>1        right around 1. About half the studies have odds</p> <p>2        ratios greater than 1; about half have odds ratios</p> <p>3        less than 1. So in that case, I would say there is no</p> <p>4        consistency.</p> <p>5            I contrast it with this where, when you look</p> <p>6        at the forest plots from the meta-analyses, nearly all</p> <p>7        of the studies have odds ratios greater than 1.</p> <p>8        BY MR. JAMES:</p> <p>9        Q. And you're including in that testimony the</p> <p>10       cohort studies?</p> <p>11       A. Yes.</p> <p>12       Q. Odds ratios that are not statistically</p> <p>13       significant, in your mind, demonstrate consistency</p> <p>14       by -- among study design. Is that your testimony?</p> <p>15       MS. PARFITT: Objection. Form.</p> <p>16       THE WITNESS: I'm sorry --</p> <p>17       BY MR. JAMES:</p> <p>18       Q. Your testimony here today is that the results</p> <p>19       reached by the cohort studies and the case-control</p> <p>20       studies are consistent. Is that your testimony?</p> <p>21       A. My testimony, as I have stated repeatedly,</p> <p>22       that there is a great deal of consistency in the</p> <p>23       direction of the effect, that nearly all of the</p> <p>24       studies report an odds ratio greater than 1. And</p> <p>25       I acknowledge that not all studies are statistically</p>
<p>1        these were not statistically significant findings.</p> <p>2        Q. So even though the authors report that</p> <p>3        there's not an association, you're claiming today that</p> <p>4        the cohort studies are consistent with the</p> <p>5        case-control studies in finding a association?</p> <p>6            MS. PARFITT: Objection. Form.</p> <p>7        THE WITNESS: I think that I have</p> <p>8        answered the question already that, in terms of the</p> <p>9        direction of the effect, that the Houghton study for</p> <p>10       the genital powder use and as well as some of the data</p> <p>11       from the Nurses' Health Study, it is consistent that</p> <p>12       there -- the odds ratio is greater than 1.</p> <p>13       BY MR. JAMES:</p> <p>14       Q. So as long as the odds ratio, even if it's</p> <p>15       statistically insignificant, exceeds 1, then you are</p> <p>16       claiming that that's reflective of an association that</p> <p>17       is consistent with the case-control studies?</p> <p>18       MS. PARFITT: Objection. Form.</p> <p>19       THE WITNESS: I am saying that there is</p> <p>20       consistency in the direction of the effect.</p> <p>21       If I may clarify. If you look at something</p> <p>22       like alcohol use and ovarian cancer, which is a fact,</p> <p>23       which overall there seems to be little association</p> <p>24       between alcohol and ovarian cancer, if you look at the</p> <p>25       meta-analyses from there, the overall estimate is</p>	<p>1        significant, but I'm just saying that the direction of</p> <p>2        the effect is very consistent.</p> <p>3        Q. And we talked earlier today about the Berge</p> <p>4        paper; correct?</p> <p>5        A. Yes, we did.</p> <p>6        Q. And they have performed an analysis for</p> <p>7        heterogeneity on the -- by study design; right?</p> <p>8        A. If I could go back to that.</p> <p>9        Q. Sure.</p> <p>10       A. Okay.</p> <p>11       Q. Dr. Moorman, if we look at the abstract of</p> <p>12       the paper, at the beginning, this is the point we</p> <p>13       discussed earlier. Here, the authors say (as read):</p> <p>14            "The heterogeneity of results by</p> <p>15            study design detracts from a</p> <p>16            causal interpretation."</p> <p>17            Correct?</p> <p>18        A. That is the statement that they make in their</p> <p>19        abstract, yes.</p> <p>20        Q. Okay. And then we looked earlier also at the</p> <p>21        Figure 2; correct?</p> <p>22        A. Yes, we did.</p> <p>23        Q. Okay. And, again, that reflects an analysis</p> <p>24        of the cohorts as compared to the case-controls;</p> <p>25        correct?</p>

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<p>1       A. Yes.</p> <p>2       Q. If you look at page 253 of the Berge article,</p> <p>3       and we look at the right column, the first -- the</p> <p>4       second full paragraph, the authors there state</p> <p>5       (as read):</p> <p>6            "The fact that the association</p> <p>7            between genital talc use and risk</p> <p>8            of ovarian cancer is present in</p> <p>9            case-control but not in cohort</p> <p>10          studies can be attributed to bias</p> <p>11          in the former type of studies."</p> <p>12          Do you see that?</p> <p>13          A. I do see what they say.</p> <p>14          I -- I think that they are not considering</p> <p>15          that there is also potential bias in the cohort</p> <p>16          studies. They say "bias in the former type of</p> <p>17          studies," not acknowledging the biases in the cohort</p> <p>18          studies.</p> <p>19          When you look at these data for the cohort</p> <p>20          studies, you look at the Gonzalez study, which again,</p> <p>21          I have referred to it as kind of an outlier with its</p> <p>22          relative risk of .73, there are many problems with</p> <p>23          that study. They assessed exposure in the past 12</p> <p>24          months. The level of exposure is very different than</p> <p>25          many of the other studies.</p>	<p>1       noted in some meta-analysis and</p> <p>2       reviews, there are considerations</p> <p>3       about those that should be taken</p> <p>4       into account."</p> <p>5       Q. Do you believe that there are inconsistencies</p> <p>6       in the literature with regard to dose-response? Yes</p> <p>7       or no.</p> <p>8       A. I think that, yes, that there -- that across</p> <p>9       the studies, some have found a dose-response, some</p> <p>10       have not.</p> <p>11       Q. At the bottom of page 30, you say that</p> <p>12       (as read):</p> <p>13            "When considering the studies that</p> <p>14            examine dose-response associations</p> <p>15            considering both dose and</p> <p>16            frequency to estimate the total</p> <p>17            number of applications of talc,</p> <p>18            the majority did find significant</p> <p>19            trends of higher risk with more</p> <p>20            lifetime applications of talc."</p> <p>21       Do you see that, where I read that?</p> <p>22       A. Yes.</p> <p>23       Q. Okay. And so for that proposition, you're</p> <p>24       citing to eight studies. If you look at the</p> <p>25       footnotes, you would agree with me that that's</p>
<p>1       And so part of the heterogeneity by study</p> <p>2       design could be attributed to this Gonzalez study that</p> <p>3       has very significant biases.</p> <p>4       Q. If other experts for Plaintiffs in this MDL</p> <p>5       litigation have conceded that there is not consistency</p> <p>6       between the cohorts and the case-controls, then you</p> <p>7       would differ with those experts; correct?</p> <p>8       MS. PARFITT: Objection. Form.</p> <p>9       THE WITNESS: I have --</p> <p>10       MS. PARFITT: Misstates the evidence.</p> <p>11       Thank you.</p> <p>12       THE WITNESS: I have answered the</p> <p>13       question, I think I've answered it repeatedly, why</p> <p>14       I think that the aspect of consistency is met.</p> <p>15       BY MR. JAMES:</p> <p>16       Q. Okay. On dose-response -- on page 30, you</p> <p>17       include discussion of dose-response in the literature.</p> <p>18       A. Yes.</p> <p>19       Q. And you acknowledge in your report that there</p> <p>20       are inconsistencies in reported dose-response;</p> <p>21       correct?</p> <p>22       A. I -- what I state is (as read):</p> <p>23            "While the inconsistency in</p> <p>24            reported dose-response trends for</p> <p>25            talc and ovarian cancer have been</p>	<p>1       reflective of eight studies cited; correct?</p> <p>2       A. Yes.</p> <p>3       Q. And you're saying that five of the eight</p> <p>4       studies that have looked at dose and frequency</p> <p>5       together did find significant trends; correct?</p> <p>6       A. Yes.</p> <p>7       Q. Among those studies that you cite for that</p> <p>8       proposition that the majority of those studies reflect</p> <p>9       a dose-response, you cited to the Mills study;</p> <p>10       correct?</p> <p>11       A. I believe so.</p> <p>12       MS. PARFITT: And, Dr. Moorman, you</p> <p>13       have your binder in front of you as well if you need</p> <p>14       it.</p> <p>15       MR. JAMES: Okay. I'm going to mark</p> <p>16       Mills as Exhibit 30.</p> <p>17       (Exhibit No. 30 was marked for identification.)</p> <p>18       BY MR. JAMES:</p> <p>19       Q. I'm going to hand you two copies.</p> <p>20       And, again, this is one of the papers you've</p> <p>21       cited for the proposition that there's a dose-response</p> <p>22       in the majority of studies that have looked at</p> <p>23       frequency times duration; correct?</p> <p>24       A. Okay. Yes.</p> <p>25       Q. And we're looking at Table 2 as the relevant</p>

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<p>1 table with the data; correct?</p> <p>2 A. Yes.</p> <p>3 Q. And if you look at Table 2, you go down to</p> <p>4 the cumulative use category, it says "frequency times</p> <p>5 duration"; correct?</p> <p>6 A. Yes.</p> <p>7 Q. And if I'm looking at this correctly,</p> <p>8 Dr. Moorman, doesn't the data in that table reflect an</p> <p>9 actual decrease in the odds ratio for the highest</p> <p>10 exposure category?</p> <p>11 MS. PARFITT: Objection. Form.</p> <p>12 THE WITNESS: It is -- the highest</p> <p>13 category, yes, does report an odds ratio of 1.06.</p> <p>14 BY MR. JAMES:</p> <p>15 Q. And based upon that, is it fair to say that</p> <p>16 this paper reflects a dose-response when measuring</p> <p>17 frequency times duration?</p> <p>18 A. They looked at the -- they did a test for</p> <p>19 trend, and we have a p-value of .051, so right at</p> <p>20 borderline statistically significant. Some people</p> <p>21 would argue that you should never use two decimal</p> <p>22 points for p-values. But nonetheless, it's -- the</p> <p>23 trend test was what I was referring to here, that it</p> <p>24 was right at borderline statistical significance.</p> <p>25 Q. And if you look at page 463 of the article,</p>	<p>1 Q. And they're not just acknowledging that</p> <p>2 there's not a perfect linear increase; they're saying</p> <p>3 that there's no dose-response for cumulative use.</p> <p>4 A. They say there is not a clear dose-response.</p> <p>5 I think -- you know, again, that's what they say. My</p> <p>6 conclusion here was, again, based on the test for</p> <p>7 trend that they did. I don't think that it was</p> <p>8 inaccurate, what I said here.</p> <p>9 Q. Another paper that you cite for the majority</p> <p>10 claim is the Terry 2013 paper; correct?</p> <p>11 A. Yes.</p> <p>12 Q. And do you know what the authors concluded in</p> <p>13 that paper about dose-response for cumulative use?</p> <p>14 A. May we look at that article?</p> <p>15 Q. Sure. It's Exhibit 24. And if we look at</p> <p>16 the abstract first together, the abstract says, the</p> <p>17 second sentence from the bottom (as read):</p> <p>18 "Among genital powder users, we</p> <p>19 observed no significant trend in</p> <p>20 risk with increasing number of</p> <p>21 lifetime applications assessed in</p> <p>22 quartiles."</p> <p>23 Did I read that correctly?</p> <p>24 MS. PARFITT: In the abstract?</p> <p>25 THE WITNESS: I'm sorry, I wasn't quite</p>
<p style="text-align: center;">Page 275</p> <p>1 the third full paragraph down -- 463 in the left</p> <p>2 column -- the authors -- this is in the authors'</p> <p>3 words. They say (as read):</p> <p>4 "As in other studies, the present</p> <p>5 study did not find a clear</p> <p>6 dose-response based on duration of</p> <p>7 use or cumulative use."</p> <p>8 Do you see that?</p> <p>9 A. Right. And they go on to say that -- again,</p> <p>10 I was basing what I said here based on their test for</p> <p>11 trend, and -- and I think they do acknowledge that in</p> <p>12 that category where they had relatively few exposed</p> <p>13 cases, they didn't -- it was not a perfectly linear</p> <p>14 association.</p> <p>15 Q. So the authors are concluding that there's</p> <p>16 not dose-response for cumulative use; correct?</p> <p>17 MS. PARFITT: Objection.</p> <p>18 BY MR. JAMES:</p> <p>19 Q. Yes or no? That's what the authors conclude</p> <p>20 in the text that we just read together?</p> <p>21 A. I -- what we read -- yes. I'm trying --</p> <p>22 let's see.</p> <p>23 Yeah, I think that they are acknowledging</p> <p>24 that it was not a perfect linear increase. My report</p> <p>25 was basing it on the test for trend that they did.</p>	<p style="text-align: center;">Page 277</p> <p>1 there with you. Could you --</p> <p>2 BY MR. JAMES:</p> <p>3 Q. Understood. No worries.</p> <p>4 A. Okay.</p> <p>5 Q. So second sentence from the bottom of the</p> <p>6 abstract, the author's conclusions on dose-response</p> <p>7 are as follows (as read):</p> <p>8 "Among genital powder users, we</p> <p>9 observed no significant trend in</p> <p>10 risk with increasing number of</p> <p>11 lifetime applications assessed in</p> <p>12 quartiles."</p> <p>13 A. That's what they describe, and --</p> <p>14 Q. I just asked, is that -- did I read that</p> <p>15 correctly?</p> <p>16 A. You did read that correctly.</p> <p>17 Q. So the authors of the paper that you've cited</p> <p>18 as one of the five papers that finds dose-response by</p> <p>19 measuring lifetime of cumulative use says the exact</p> <p>20 opposite; correct?</p> <p>21 MS. PARFITT: Objection.</p> <p>22 THE WITNESS: If I may take just a</p> <p>23 moment. I want to find the part of this paper that</p> <p>24 supported the statement that I made in my report.</p> <p>25 MR. JAMES: Sure. Let's go off the</p>

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<p>1 record.</p> <p>2 THE VIDEOGRAPHER: Going off record at</p> <p>3 5:14 p.m.</p> <p>4 (Off the record.)</p> <p>5 THE VIDEOGRAPHER: Back on record at</p> <p>6 5:15 p.m.</p> <p>7 THE WITNESS: Okay. On page 817, it</p> <p>8 reads (as read):</p> <p>9 "Although a significant increase</p> <p>10 in risk with an increasing number</p> <p>11 of genital powder applications was</p> <p>12 found for non-mucinous epithelial</p> <p>13 ovarian cancer when non-users were</p> <p>14 included in the analysis."</p> <p>15 And it then goes on (as read):</p> <p>16 "Note trend in cumulative use was</p> <p>17 evident in analyses restricted to</p> <p>18 ever-users of genital powders."</p> <p>19 And so, again, my -- the statement that</p> <p>20 I had here, "a significant trend with increasing</p> <p>21 number of genital powder applications," they make the</p> <p>22 distinction of looking at the trend when you include</p> <p>23 non-users, and that's a pretty standard thing to do in</p> <p>24 epidemiology. It's -- you look -- can look as</p> <p>25 non-users as your reference group and then assess a</p>	<p>1 questions, Dr. Moorman.</p> <p>2 MR. JAMES: Michelle, is it fine if</p> <p>3 I have some time to review my notes while the others</p> <p>4 are asking questions and then come back?</p> <p>5 MS. PARFITT: Sure.</p> <p>6 MR. JAMES: Is that okay with you?</p> <p>7 MS. PARFITT: That's fine. Sure.</p> <p>8 MS. FOSTER: Can we go off and I'll</p> <p>9 switch.</p> <p>10 THE VIDEOGRAPHER: Going off the record</p> <p>11 at 5:18 p.m.</p> <p>12 (Off the record.)</p> <p>13 THE VIDEOGRAPHER: Back on record at</p> <p>14 5:20 p.m.</p> <p>15 CROSS-EXAMINATION BY COUNSEL FOR THE DEFENDANT</p> <p>16 IMERYS TALC AMERICA, INC.</p> <p>17 BY MS. FOSTER:</p> <p>18 Q. Good evening, Dr. Moorman. We met a long</p> <p>19 time ago this morning. My name is Jennifer Foster.</p> <p>20 I represent one of the Defendants in this action,</p> <p>21 Imerys Talc America, Inc. Do you understand that?</p> <p>22 A. Yes, I do.</p> <p>23 Q. And before you got involved in this</p> <p>24 litigation, did you know who Imerys Talc America, Inc.</p> <p>25 was?</p>
<p style="text-align: center;">Page 279</p> <p>1 trend.</p> <p>2 I know what they say here, but I -- but</p> <p>3 I think that what I stated in my report is accurate,</p> <p>4 that they did find that a significant trend. So</p> <p>5 I don't think that I'm misstating what -- the data in</p> <p>6 the paper.</p> <p>7 BY MR. JAMES:</p> <p>8 Q. So the results that are reported by the</p> <p>9 authors in the abstract you disagree with; correct?</p> <p>10 MS. PARFITT: Objection. Form.</p> <p>11 BY MR. JAMES:</p> <p>12 Q. The statements in the abstract pertaining to</p> <p>13 dose-response, do you disagree with those statements?</p> <p>14 A. What they say is "among genital powder</p> <p>15 users." And so the statement that they make is</p> <p>16 accurate, but I think that they are citing data</p> <p>17 that -- it's one way to look at the data, but I think</p> <p>18 that considering the non-users in their test for trend</p> <p>19 is also a very well-accepted way to do that, to do a</p> <p>20 test for trend.</p> <p>21 And so I think that both -- they reported</p> <p>22 one aspect of their analysis, and I reported what</p> <p>23 I think accurately reflects another aspect of their</p> <p>24 analysis.</p> <p>25 Q. Okay. I am getting close to the end of my</p>	<p style="text-align: center;">Page 281</p> <p>1 A. No, I did not.</p> <p>2 Q. Had you ever heard of them before?</p> <p>3 A. No.</p> <p>4 Q. And do you have an understanding of who they</p> <p>5 are now that you've become involved in the litigation?</p> <p>6 A. I do.</p> <p>7 Q. And you understand that Imerys mines and</p> <p>8 supplies talc to Johnson &amp; Johnson for use in some of</p> <p>9 its talcum powder products?</p> <p>10 A. That is my understanding, yes.</p> <p>11 Q. Do you understand that Imerys does not sell</p> <p>12 talcum powder products directly to consumers?</p> <p>13 A. That was my understanding, yes.</p> <p>14 Q. And based on some testimony earlier today</p> <p>15 about the basis of your opinions being grounded in</p> <p>16 epidemiology studies about talcum powder products, am</p> <p>17 I correct that you wouldn't have any personal</p> <p>18 knowledge with respect to the composition of the talc</p> <p>19 that Imerys mines and supplies to Johnson &amp; Johnson?</p> <p>20 MS. PARFITT: Objection.</p> <p>21 THE WITNESS: No, I would not have that</p> <p>22 personal knowledge.</p> <p>23 BY MS. FOSTER:</p> <p>24 Q. And you have no opinions about any talc</p> <p>25 mining practices that Imerys employs; correct?</p>

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<p>1        A. I know nothing about their mining practices. 2        Q. And you have no opinions about Imerys's 3        compliance with any applicable standards or 4        specifications regarding the mining of talc; correct? 5            A. I do not know anything about that. 6            Q. And I'm going to be hopping around a lot 7        because Mr. James covered a lot of ground, so just 8        bear with me. If I go somewhere and you don't know 9        what I'm talking about, please just tell me you don't 10      know what I'm talking about -- 11           A. Okay. 12           Q. -- and I'll rephrase so that we can get on 13      the same page. 14           One of the first things you talked about 15      this morning when you were talking to Mr. James is 16      that you have entered a period I think you called 17      preretirement transition. Do I have that right? 18           A. Yes. 19           Q. Okay. And do you have a retirement date in 20      mind? 21           A. That's still somewhat being discussed with my 22      husband. 23           Q. Okay. So you don't have a set "I'm going to 24      retire in a year," for example? 25           A. The exact date is not defined yet.</p>	<p>1        A. Yes, that is. 2        Q. And is that a study that's designed to 3        collect new data from study participants, or is that 4        going to be an evaluation of data that you already 5        have collected from other studies? 6           A. It is a consortium that is planning to 7        analyze data that have already been collected. It 8        involves -- I believe it is a total of seven studies; 9        some case-control, some cohort studies. 10          Q. And -- were you finished? I'm sorry. 11          A. Go ahead. 12          Q. And how were the studies selected to be 13      included in that consortium? 14          A. It was -- the purpose of that was to try to 15      put more data together, especially related to women of 16      African ancestry. So they're all US studies, so 17      African American. Recognizing that the AACES study, 18      with about 600 cases, we still have some issues with 19      statistical power. So we contacted -- Dr. Schildkraut 20      is the PI on this study as well. 21           And so studies that had a reasonable number 22      of African American study participants, they were 23      contacted to see if they were interested in 24      participating in such a study. 25           And so it includes studies such as the Black</p>
<p style="text-align: center;">Page 283</p> <p>1        Q. And when you do retire, are you still going 2        to have any involvement with what you've defined as 3        the AACES study, the African American Cancer 4        Epidemiology Study? 5           A. That is still to be determined as well. 6           Q. And am I correct that that study is still 7        ongoing? 8           A. The funding for that study ended -- I think 9        it was 2015/2016. I don't recall the exact date. And 10      so we have not collected any data for that study since 11      that time. 12           We have continued to do analysis of data 13      that we have collected, and we are also trying to 14      secure funding to continue data collection with that 15      study. 16           Q. That was going to be my question. Who have 17      you made that request to for additional funding? 18           A. The grant application was submitted to 19      National Cancer Institute. 20           Q. And that's who funded the original research; 21      correct? 22           A. That is correct. 23           Q. And you also mentioned a publication that is 24      in draft form regarding something called the OCWAA 25      Consortium; is that correct?</p>	<p style="text-align: center;">Page 285</p> <p>1        Women's Health Study Cohort, that's out of Boston 2        University; the Multiethnic Cohort, which is out of 3        California; the Southern Community Cohort Study; the 4        Women's Health Initiative; as well as a Los Angeles 5        case-control study and a case-control study out of 6        Chicago, in addition to the AACES study. 7           I think that that's most of them. 8           Q. Okay. Are you involved in any current 9        research where the intent is to collect new data for 10      evaluation of risk factors for ovarian cancer? 11           A. Other than what I described to you, that we 12      hope to -- that we are applying for funding to 13      continue the AACES study, I'm not currently doing any 14      data collection related to ovarian cancers. 15           Q. Are the coauthors and coinvestigators that 16      you worked with on the AACES and the North Carolina 17      Ovarian Cancer Study aware of your involvement in the 18      talcum powder litigation? 19           A. Some of them are. I -- you know, as -- 20      I have disclosed it on one publication, and if they've 21      read it, they are aware. I've discussed it with some 22      of them but not all of them. You know, I haven't had 23      a conversation, per se, with all of them. 24           Q. And you mentioned earlier, with respect to 25      some of the new publications that are in draft form</p>

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<p>1 that are currently in the peer review process, that 2 they have talc as a -- as a confounding factor under 3 investigation; correct? 4       A. I think -- I'm going to reread your -- 5       Q. I can rephrase it. 6           I think when you were talking earlier about 7           the studies that you have in draft, the question was 8           whether or not you had any publications that, you 9           know, mentioned talc. And I thought your testimony 10          was that talc was listed as a possible confounding 11          factor in some of the studies that were in draft form. 12          Is that correct? 13        A. Right. I mentioned that specifically in 14          relation to the infertility and ovarian cancer paper 15          that is in draft form, it's -- talc is considered as a 16          confounder there. 17           In regard to the description of the OCWAA 18          study, that paper, we are listing it as one of the 19          factors that we are likely to evaluate as a risk 20          factor for ovarian cancer. 21        Q. Okay. And my question is have you ever 22          included asbestos as a risk factor under investigation 23          in your epidemiology studies? 24        A. If I am not mistaken, I think that we had a 25          question on the AACES questionnaire that we asked if</p>	<p>1 did you have a particular paper in -- in mind? 2 BY MS. FOSTER: 3        Q. Not with 20 minutes left, no. 4        A. I'm sorry. I just -- you know, you're asking 5           me what did they mean, and I'm not even sure which 6           paper might have described something as a weak 7           positive association, and I'm not sure who would have 8           used that terminology or what was going through their 9           mind when they chose those words. 10          Q. I assume there are standard epidemiology 11          textbooks that you use in your field; correct? 12          A. Yes. 13          Q. Okay. And what are some of your go-to 14          epidemiology textbooks? 15          A. Let's see. Ken Rothman's Modern Epidemiology 16          is -- different editions of it have been around since 17          I was in school 30 years ago. I still refer to that. 18           When I have taught the physician assistant 19          students, the textbook that we use, which is a little 20          bit lower-level textbook, was going to us. Those are 21          probably my go-to ones. 22          Q. Okay. Do any of the standard epidemiology 23          textbooks use terms like "weak," "modest," "strong," 24          to describe associations? 25          A. I -- I imagine that in the textbooks, they</p>
<p>1 women had ever been -- ever had a job where they were 2 exposed to asbestos, and I don't know that we have 3 analyzed that data yet. 4        Q. Okay. And you had some discussion with 5          Mr. James earlier today about different types of 6          terminology that might be used to describe 7          associations in the epidemiology literature. 8           Do you recall that? 9        A. Yes. 10       Q. And you were talking about weak associations, 11          modest associations, strong associations. Do you 12          remember that general discussion? 13        A. Yes. 14       Q. Now, as an epidemiologist, how would you 15          define a weak positive association? 16        A. As we have said before, there is no absolute 17          cut-point what's a weak association, what's a modest, 18          what's a moderate association. I -- I can't put a 19          number on that. I don't think any epidemiologist 20          could. 21        Q. In papers that you've authored that have used 22          the words "weak positive association," what do the 23          authors mean by that? 24        MS. PARFITT: Objection. Form. 25        THE WITNESS: I'm -- I'm not -- if --</p>	<p>1 might use that. But the point that I have been trying 2 to make is that there is no numerical value to go 3 along with those descriptors. 4        Q. All right. Switching topics, I want to talk 5          a little bit about some of the things that you 6          reviewed before you came and gave your deposition 7          today. 8           Now, you confirmed earlier that you reviewed 9          the reports of some of the other Plaintiffs' experts 10         in this case; correct? 11        A. Yes. 12       Q. And you reviewed those all between the time 13          that you finished your report and when you came here 14          to testify; correct? 15        A. That is correct. 16       Q. And those were all provided to you by 17          Plaintiffs' counsel; correct? 18        A. That is correct. 19       Q. And how did you choose which of the 22 expert 20          reports that you were going to sit down and read? 21        A. I knew which of the ones that were more of 22          the epidemiology-focused ones. And because that is my 23          area of expertise, those were the ones that I went to 24          first. 25           Also, some of it was, you know, some of the</p>

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<p>1 names that I recognized: David Kessler, former chair 2 of the -- former head of the FDA; Daniel 3 Clarke-Pearson, who is a gynecologic oncologist who 4 was formerly at Duke. He's now at UNC. 5 Q. Do you know Dr. Clarke-Pearson? 6 A. Only by reputation. 7 Q. You haven't talked to him about your opinions 8 in this litigation? 9 A. No, I have not. 10 Q. And you haven't talked to any other 11 Plaintiffs' expert about your opinions in this 12 litigation? 13 A. No, I have not. 14 Q. In reviewing those reports, did you work 15 under the assumption that the authors of those reports 16 had employed generally accepted methodologies in 17 forming their conclusions? 18 A. I -- I assumed that they had. You know, some 19 of the experts, they are names that I know, even if 20 I don't know the individual personally. You know, 21 Dr. Siemiatycki, Dr. McTiernan, these are very 22 well-known epidemiologists. And so my assumption is 23 that they use generally accepted methodologies. 24 Q. I noticed on the 25 additional-materials-provided list -- I think it was</p>	<p>1 2016, and then updated it to make sure that my report 2 reflected the current literature. 3 Q. Did you do any kind of Bradford Hill analysis 4 of the claimed association between talcum powder usage 5 and ovarian cancer before you were retained as an 6 expert in the talcum powder litigation? 7 A. Doing -- considering the talcum powder -- or 8 considering the Bradford Hill criteria, this is 9 something that we do in our work all the time. It's 10 probably not as formalized as what was done here. 11 As you're aware, I was a coauthor, but I was 12 not the lead author on the AACES study of talc and 13 ovarian cancer. And in regard to the North Carolina 14 Ovarian Cancer Study, that was not the major focus of 15 the -- those papers that reported on talc and -- that 16 reported on talc as a risk factor. 17 So have I done the Bradford Hill criteria? 18 Certainly not in the detail that I have done for the 19 report that I prepared. 20 Q. And when you were -- when Mr. James asked you 21 about the NCI PDQ -- and you all looked at that as an 22 exhibit to the deposition. 23 Do you recall that earlier today? 24 A. Yes, I do. 25 Q. And one of the things that you mentioned is</p>
<p>1 marked as Exhibit 8 earlier. It's a document that 2 I believe you said counsel had prepared, and it has 3 the expert reports on it. It also has a couple of 4 deposition transcripts on it from Dr. Plunkett and 5 Dr. Singh. 6 Did you review either of those before you 7 came and testified today? 8 A. Dr. Plunkett and Dr. Singh, S-I-N-G-H? 9 Q. Yes. 10 A. I don't believe that I read Dr. Plunkett's 11 deposition. I did read a fair bit of Dr. Singh's 12 deposition. 13 Q. When did you do that? 14 A. Probably a week or so ago. 15 Q. Do you have any intention of reading the rest 16 of the reports that Plaintiffs' counsel sent to you 17 after you're closed here today? 18 A. I think that it is possible that I will read 19 some of them, time permitting. 20 Q. You testified about a literature search that 21 you conducted on talcum powder and ovarian cancer. 22 When did you first conduct that search? 23 A. I believe that probably the first time I did 24 that search was not long after I was contacted about 25 possible involvement in this. So probably summer of</p>	<p>1 you see some kind of inconsistency in the way that NCI 2 evaluates data as to whether there is adequate 3 evidence of association or inadequate evidence of 4 association and specifically used the example of the 5 way that that they evaluated the breastfeeding data. 6 Do you remember that? 7 A. Right. What I -- I think the point that 8 I was trying to make when I was asked about that is 9 that the NCI PDQ, they do not describe their 10 methodology. So we're kind of left at what method did 11 they use to evaluate the data? Did they do a complete 12 systematic review, or was it -- was it something less 13 than a complete systematic review? 14 And my point is that, from the information 15 provided, we don't know what methods they used. 16 Q. Have you ever tried to communicate with any 17 of the editorial board members who write the NCI PDQ? 18 A. No, I have not. 19 Q. And you haven't submitted your report to 20 IARC; correct? 21 A. My -- 22 Q. Your expert report. You haven't submitted a 23 copy of your expert report to IARC for their 24 consideration; correct? 25 A. No, I have not.</p>

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<p>1       Q. Being conscious of the fact that we have 2       limited time left, I'm going to -- okay. One last 3       question. 4           In terms of the expert report that you 5       provided in the MDL litigation that we've been talking 6       about all day today, are all of the opinions that you 7       intend to give in this litigation contained within 8       that report? 9           A. I believe they are, yes. 10          MS. FOSTER: I don't have anything else 11       for you. So I'm going to pass you on to my colleague 12       here. Thank you very much. 13          THE WITNESS: Okay. 14          CROSS-EXAMINATION BY COUNSEL FOR THE DEFENDANTS 15           PERSONAL CARE PRODUCTS COUNCIL 16          BY MS. APPEL: 17           Q. Hi, Dr. Moorman. You can you hear me okay? 18           A. I can, yes. 19           Q. And just as a reminder from this morning, 20       I am Renée Appel, and I represent Personal Care 21       Products Council. And I just have a handful of 22       questions to follow up on. 23           When did you first form your opinion in your 24       expert report that talcum powder products can cause 25       ovarian cancer?</p>	<p>1       referring to talcum powder products? 2           A. Yes, because all of the literature is -- the 3       epidemiologic literature is based on talcum powder 4       products, whatever the women reported that they used. 5           Q. So is it correct, Dr. Moorman, that you had 6       not formed an opinion as to whether pure talc is a 7       risk factor for forming ovarian cancer? 8           MS. PARFITT: Objection. 9           THE WITNESS: Again, my opinion is 10       based on the product that women have used, and my 11       understanding is that all of the products, they have 12       other constituents in them. So they may contain, you 13       know, as we have discussed previously, fragrances, for 14       example. We have also talked about that there are 15       other -- there's evidence to suggest other 16       constituents, such as asbestos or possibly heavy 17       metals. 18          BY MS. APPEL: 19           Q. And as to those constituents, would you defer 20       to other experts to opine on them, based on the 21       examples you just provided, fragrances or heavy 22       metals? 23           MS. PARFITT: Objection. Form. 24          THE WITNESS: You're asking me defer to 25       other estimates to opine on them in what sense? Opine</p>
<p>1       A. I think that we have talked about this, that 2       the literature on talc and ovarian cancer has been 3       accruing since 1982, and to say at what point I formed 4       my opinion that it causes ovarian cancer, I can't 5       pinpoint that date. 6           I can say that I have considered talc as a 7       risk factor for ovarian cancer for quite some time. 8       Just over my career, it just seems like it has been an 9       accumulating volume of evidence. 10          Q. Did you hold that opinion before you were 11       retained as an expert in the talc litigation dating 12       back to the Ingham case? 13           A. I think that, yes, I did. 14          Q. But, sitting here today, you can't recall a 15       specific year or point in time in which you formed 16       that opinion? 17           MS. PARFITT: Objection. 18          THE WITNESS: I think that I've 19       answered that. I can't pinpoint at what point that 20       I concluded it was a risk factor for ovarian cancer. 21       It's been something that I've considered a risk factor 22       for ovarian cancer for quite -- quite a number of 23       years. 24          BY MS. APPEL: 25           Q. And when you refer to "it," Doctor, are you</p>	<p>1       on them in what sense? 2          BY MS. APPEL: 3           Q. Sure. Would you defer to other experts to 4       opine on whether those particular constituents in 5       isolation are a risk factor for ovarian cancer? 6           MS. PARFITT: Objection. Form. Asked 7       and answered. 8          THE WITNESS: Okay. Those particular 9       constituents in isolation are a risk factor for 10       ovarian cancer. 11          I think that we have discussed this 12       previously today, that what is the evidence about, for 13       example, the heavy metals in isolation in ovarian 14       cancer and limited to -- limited epidemiologic data in 15       that regard. 16          So I don't know that I'm deferring to other 17       experts, but, as I phrased it earlier today, I -- 18       the -- whether or not these substances are in talc 19       products, it adds to the biologic plausibility, but 20       the epidemiologic data is based on the talc products. 21       That's what the women were exposed to. 22          BY MS. APPEL: 23           Q. Okay. So in forming your opinion, you are 24       assuming that those constituents that you've 25       mentioned -- heavy metals, asbestos -- that they are</p>

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<p>1      in the talc powder product that you've rendered an 2      opinion about today?</p> <p>3      MS. PARFITT: Objection. Misstates her 4      earlier opinions.</p> <p>5      You might want to read that.</p> <p>6      THE WITNESS: I -- I am not making, 7      really, any assumptions that these are in the 8      products. My -- you know, my focus on the 9      epidemiologic data is based on the use of the talc 10     products, whatever is contained in them.</p> <p>11     BY MS. APPEL:</p> <p>12     Q. In your report on page 30, you've indicated 13     that -- second paragraph, I'm reading from. And I'll 14     give you a moment to turn to it. (As read):</p> <p>15        "For an association like talc and 16        ovarian cancer, the dose that is 17        most relevant is the amount of 18        talc that actually reaches the 19        fallopian tubes and ovaries."</p> <p>20        Did I read that correctly?</p> <p>21        A. Yes, you did.</p> <p>22        Q. There is, in fact, though, no dose that has 23        been determined that actually reaches the fallopian 24        tubes and the ovaries in any of the studies that 25        you've relied upon; correct?</p>	<p>1      MS. PARFITT: Objection. Form. 2      THE WITNESS: I think that the sentence 3      that followed the one that you're reading is that, for 4      all the pragmatic reasons, we rely on the measures of 5      external application as a surrogate of the level of 6      exposure. There's no way that we could measure what 7      dose of talc reached the ovaries or the fallopian 8      tubes for something that women might have applied over 9      20, 30, 40 years of their lives.</p> <p>10     BY MS. APPEL:</p> <p>11     Q. Earlier today, you had discussed the 12     hierarchy of scientific evidence.</p> <p>13     Do you recall that discussion?</p> <p>14     A. I don't think that I used that terminology, 15     but I think that -- in talking about the 16     meta-analyses, yes. Yes.</p> <p>17     Q. In terms of that hierarchy, that you 18     understand that I'm referring to based on that prior 19     discussion, where do cohort studies fall in comparison 20     to case-control studies?</p> <p>21     MS. PARFITT: Objection. Asked and 22     answered.</p> <p>23     THE WITNESS: Okay. If you have a 24     cohort study that was able to determine exposure 25     completely and accurately, and follow women for a</p>
<p>1      MS. PARFITT: Objection. Form. 2      THE WITNESS: Let's see.</p> <p>3      BY MS. APPEL:</p> <p>4      Q. I can rephrase if you don't understand. 5      A. If you wouldn't mind, please. 6      Q. Absolutely.</p> <p>7      In the studies that you've relied upon in 8      forming your opinion, none of those studies have 9      determined a particular dose of talc that actually 10     reaches the fallopian tubes and ovaries; correct?</p> <p>11     MS. PARFITT: Objection.</p> <p>12     THE WITNESS: Okay. So if we are 13     talking about the epidemiologic studies, there -- no, 14     of course, they did not measure what dose of talc 15     reached the ovaries and fallopian tubes. That would 16     not be feasible to do for -- reflecting the many, many 17     years of use, and also it would be completely 18     unfeasible to do something like that in an 19     epidemiologic study.</p> <p>20     BY MS. APPEL:</p> <p>21     Q. But you maintain the opinion that a 22     determination of that amount -- the amount being what 23     talc reaches the fallopian tubes and ovaries -- is 24     important to making a determination about an 25     association between talc and ovarian cancer; correct?</p>	<p>1      sufficient period of time, I think most people would 2      consider that a -- generally a stronger design than a 3      case-control study.</p> <p>4      But, as I have indicated in my report, you 5      can't rely just on what is the stronger study design, 6      in general. You look -- have to look at the strengths 7      and limitations of the individual studies.</p> <p>8      Cohort studies have some strengths; they 9      have some notable weaknesses. And I've described 10     those weaknesses several times over the course of 11     today. And I also acknowledge that case-control 12     studies have some weaknesses, but they also have 13     noticeable strengths too.</p> <p>14     BY MS. APPEL:</p> <p>15     Q. Is it accurate, Dr. Moorman, that, when you 16     were previously discussing meta-analyses and where 17     that falls on the hierarchy, you were envisioning a 18     pyramid graphic? Is that correct?</p> <p>19     A. I have -- yes, I have seen graphics that 20     depict it like that.</p> <p>21     Q. And in those particular graphics, where is 22     cohort studies listed in comparison to case-control 23     studies?</p> <p>24     MS. PARFITT: Objection.</p> <p>25     THE WITNESS: As I have said, that in</p>

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<p>1 that pyramid, it is -- typically, the cohort study is 2 ranked as a stronger study design. But, again, I 3 cannot emphasize strongly enough that you have to 4 consider strengths and weaknesses of individual. 5 BY MS. APPEL: 6 Q. And, Dr. Moorman, have you considered 7 publishing your expert report or the findings that you 8 arrived at in your expert report? 9 A. I have considered it. I have not actually 10 done anything to translate it into a manuscript. 11 MS. APPEL: Okay. Thank you, 12 Dr. Moorman. That concludes my questions. 13 THE WITNESS: Okay. 14 MR. JAMES: I think there's about eight 15 minutes. Off the record. 16 THE VIDEOGRAPHER: Going off the record 17 at 5:50 p.m. 18 (Discussion off the record.) 19 THE VIDEOGRAPHER: Back on record at 20 5:51 p.m. 21 FURTHER EXAMINATION BY COUNSEL FOR THE 22 JOHNSON &amp; JOHNSON DEFENDANTS 23 BY MR. JAMES: 24 Q. Dr. Moorman, in regard to your general cause 25 opinion, do you hold the opinion that the evidence is</p>	<p>1 is sufficient to conclude that inhaled talcum powder 2 can cause ovarian cancer? 3 A. I do not think that there are epidemiologic 4 studies that have actually looked at inhaled talcum 5 powder in relation to ovarian cancer. 6 Q. And so is your answer that -- let me just ask 7 this again. 8 Do you believe there's sufficient evidence 9 upon which you can conclude that inhaled talc powder 10 causes ovarian cancer? 11 MS. PARFITT: Objection. 12 THE WITNESS: I think that I answered 13 that when I said that I don't think that there are 14 epidemiologic studies that have looked at that. So 15 I can't say that there is sufficient evidence. 16 BY MR. JAMES: 17 Q. Dr. Moorman, are you generally aware that, in 18 the African-American population, there is a lower 19 incidence of ovarian cancer? 20 A. Yes. 21 Q. And you have -- have you also seen in the 22 literature that there is at least some discussion in 23 the literature that the prevalence of talcum powder 24 used in the African-American populations may be 25 higher?</p>
<p>1 sufficient to support a general cause opinion for all 2 subtypes of ovarian cancer or do you distinguish among 3 the subtypes? 4 A. Okay. The majority of the studies looked at 5 epithelial ovarian cancer as a whole. Some of the 6 studies did look at subtypes. As we are aware, the 7 serous subtype is the vast majority, probably about 8 60 -- maybe "vast majority" is overstating it. But 9 serous subtypes are roughly 60 percent of ovarian 10 cancer cases. And so the studies that looked at the 11 subtypes tended to focus on that. 12 The other subtypes -- the mucinous, the 13 clear cell, and the other subtypes -- they are a much 14 smaller percentage of epithelial ovarian cancer. And 15 so there's really not adequate data to make a 16 conclusion about these subtypes. 17 Q. With regard to inhalation, which you touch 18 upon in your report, do you hold the opinion that 19 inhalation of talcum powder products can cause ovarian 20 cancer? 21 A. I have stated that that is a possible route 22 of exposure to the ovaries. The epidemiologic studies 23 have not specifically addressed the risk associated 24 with inhalation only of talcum powder products. 25 Q. So is there evidence upon which you believe</p>	<p>1 A. Yes. 2 Q. If both of those things are true, can you 3 provide us an explanation as to why -- why that would 4 be the case? 5 A. There are many causes of ovarian cancer. And 6 some of the risk factors are more common in 7 African-American women; some are less common. 8 So when you consider the whole spectrum of 9 risk factors, you know, breastfeeding, pregnancy, oral 10 contraceptive use, to pinpoint one factor like talc 11 that is used more frequently in African Americans and 12 then say that that conflicts with the lower incidence 13 of ovarian cancer that we see in African-American 14 women, it doesn't take into account the full spectrum 15 of risk factors. 16 Q. With regard to the Health Canada assessment 17 that we discussed much earlier today, do you 18 understand that that assessment is in draft form 19 currently? 20 MS. PARFITT: Objection. 21 THE WITNESS: My understanding is that 22 the scientific assessment they did is complete and 23 that they are -- that there is a period of comment 24 that -- so, I'm sorry, I want to make sure... 25</p>

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<p>1 BY MR. JAMES:</p> <p>2 Q. Do you understand that right now that</p> <p>3 assessment is currently in the process of a comment</p> <p>4 period?</p> <p>5 MS. PARFITT: Objection. Form.</p> <p>6 THE WITNESS: My understanding is the</p> <p>7 assessment of the risk that they did, that is</p> <p>8 complete, and then they are assessing -- or it is in a</p> <p>9 comment period. And I think that, you know,</p> <p>10 potentially, if there were some serious concerns</p> <p>11 raised, they might revisit the risk assessment that</p> <p>12 they did. But my understanding is what they published</p> <p>13 is their -- that they felt like the risk assessment</p> <p>14 was complete.</p> <p>15 BY MR. JAMES:</p> <p>16 Q. And to be very quick here, I understand that</p> <p>17 one of the materials provided to you in the additional</p> <p>18 materials list was the Taher paper; correct?</p> <p>19 A. Yes.</p> <p>20 Q. And do you understand that the Taher paper is</p> <p>21 one of the items discussed in the Health Canada</p> <p>22 assessment?</p> <p>23 A. Yes.</p> <p>24 Q. And do you understand the Taher paper's</p> <p>25 conclusion is consistent with the IARC's conclusion of</p>	<p>1 A. Yes, I --</p> <p>2 MS. PARFITT: Is the question is that</p> <p>3 what it says?</p> <p>4 BY MR. JAMES:</p> <p>5 Q. That is the question.</p> <p>6 We had a discussion earlier today about</p> <p>7 possible cause; correct?</p> <p>8 A. Yes.</p> <p>9 MS. PARFITT: Objection.</p> <p>10 BY MR. JAMES:</p> <p>11 Q. And, Dr. Moorman, with respect to the</p> <p>12 Bradford Hill analysis --</p> <p>13 MS. PARFITT: Can we stop for a minute?</p> <p>14 Are you going to tell us when we're off and</p> <p>15 when we're done?</p> <p>16 THE VIDEOGRAPHER: Just one minute.</p> <p>17 MS. PARFITT: Thank you. Oh, that's</p> <p>18 good.</p> <p>19 BY MR. JAMES:</p> <p>20 Q. With respect to your Bradford Hill</p> <p>21 analysis -- and this should be my last question --</p> <p>22 A. Okay.</p> <p>23 Q. -- you will agree with me that in order to</p> <p>24 reach a causal conclusion, you must rely on items</p> <p>25 other than the cohorts, case controls, and</p>
<p>1 possible cause?</p> <p>2 MS. PARFITT: Objection. Form.</p> <p>3 Misstates the evidence.</p> <p>4 THE WITNESS: If you have the Taher</p> <p>5 paper -- again, just recalling exactly what they</p> <p>6 stated, I -- too many papers to remember all the</p> <p>7 detail.</p> <p>8 BY MR. JAMES:</p> <p>9 Q. When is the last time you reviewed the Taher</p> <p>10 paper?</p> <p>11 A. I would say probably a week or two ago.</p> <p>12 MR. JAMES: So if Michelle doesn't cut</p> <p>13 me off, I will hand you a copy of it. I'm going to</p> <p>14 mark it as Exhibit 31.</p> <p>15 (Exhibit No. 31 was marked for identification.)</p> <p>16 BY MR. JAMES:</p> <p>17 Q. I'll hand you two copies.</p> <p>18 Okay. And, Dr. Moorman, again, because I'm</p> <p>19 running out of time, I'll direct you to the precise</p> <p>20 portion of the article that founds my question. It's</p> <p>21 on page 49, and it's in the conclusion section of the</p> <p>22 paper.</p> <p>23 And you see in the last sentence -- in the</p> <p>24 last sentence, they report that the data indicates</p> <p>25 "possible cause of ovarian cancer"?</p>	<p>1 meta-analyses of the epidemiologic literature;</p> <p>2 correct?</p> <p>3 MS. PARFITT: Objection. Form.</p> <p>4 THE WITNESS: The -- some of the</p> <p>5 Bradford Hill aspects which I think I discussed in my</p> <p>6 report were the biological plausibility, and so I did</p> <p>7 rely on literature other than the epidemiologic</p> <p>8 literature.</p> <p>9 BY MR. JAMES:</p> <p>10 Q. And those are necessary as part of your</p> <p>11 methodology to reach a causal conclusion; correct?</p> <p>12 MS. PARFITT: Objection. Form.</p> <p>13 THE WITNESS: They are a consideration.</p> <p>14 When you do a Bradford Hill analysis, of course you</p> <p>15 take into account the biological plausibility and the</p> <p>16 data that may come from cancer biology studies, animal</p> <p>17 studies, and so on. So yes, it should be considered.</p> <p>18 MR. JAMES: Okay. Dr. Moorman, thank</p> <p>19 you for your time.</p> <p>20 THE WITNESS: Okay.</p> <p>21 MS. PARFITT: Can we go off the record,</p> <p>22 please.</p> <p>23 THE VIDEOGRAPHER: Going off the record</p> <p>24 at 6:01 p.m.</p> <p>25 (Recess taken from 6:01 p.m. to 6:14 p.m.)</p>

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<p>1           THE VIDEOGRAPHER: Back on record at 2         6:15 p.m. 3           CROSS-EXAMINATION BY COUNSEL FOR THE PLAINTIFF 4         BY MS. PARFITT: 5           Q. Dr. Moorman, good evening. 6           A. Good evening. 7           Q. I just have a few questions to follow up with 8         counsel for J&amp;J and then for PCPC. 9           Dr. Moorman, you were asked not too long ago 10        by Mr. James a question with regard to your general 11        causation opinions as they relate to does talc -- do 12        talcum powder products cause ovarian cancer. 13           Do you remember that discussion? 14         A. Yes, I do. 15         Q. All right. And I believe the question dealt 16        with subtypes of epithelial ovarian cancer. 17           Do you remember that? 18         A. Yes. 19         Q. All right. And I believe your testimony was 20        that there's really not adequate data to make a 21        conclusion about the subtypes. 22         Did you mean, when you said that, that 23        there's not adequate data to make a conclusion about 24        these other subtypes, that that was because the 25        non-serous subtypes were relatively rare?</p>	<p>1           of the opinion of Health Canada vis-à-vis exposure to 2        talcum powder products and ovarian cancer? 3           A. My -- my understanding is that Health Canada 4        indicated that talcum powder products can cause 5        ovarian cancer. 6           Q. Mr. James showed you a study, the Taher 7        study. 8           A. Yes. 9           Q. And you had an opportunity to review the 10       Taher study as well; correct? 11           A. Yes. 12         Q. Is the Taher study a -- one of the pieces of 13       evidence that you looked at in your review of the 14       Health Canada assessment? 15           A. One of -- it's one of the pieces of evidence, 16       but not the sole body of evidence that they 17       considered. 18           Q. Okay. And is the Taher study also considered 19       a meta-analysis? 20           A. Yes. 21         Q. Okay. For purposes of rendering your 22       opinions in this case, that talcum powder products can 23       cause ovarian cancer, you have shared with the ladies 24       and gentlemen of the jury that you have reviewed 25       multiple meta-analyses; correct?</p>
<p>1           A. Yes, but the bulk of the literature is 2        addressing epithelial ovarian cancer, which includes 3        all of the subtypes. 4           Q. All right. So that the ladies and gentlemen 5        are clear as to what your opinion is, is it your 6        opinion that talcum powder products can cause -- or 7        exposure -- let me strike that. 8           Is it your opinion that exposure to talcum 9        powder products can cause ovarian cancer? Is that 10       your opinion? 11         A. That is my opinion. 12         Q. All right. And does that include all types 13       of epithelial ovarian cancer? 14         A. That -- yes. The data are based -- are 15       largely based on all types of epithelial ovarian 16       cancer. Yes. 17         Q. You were questioned a little earlier, and 18       briefly, about the Health Canada assessment. Do you 19       recall those discussions? 20         A. Yes. 21         Q. Okay. And have you had an opportunity to 22       review the recommendations of Health Canada? 23         A. I have, yes. 24         Q. All right. Based upon your review of the 25       Health Canada assessment, what is your understanding</p>	<p>1           A. That is correct. 2         Q. And I believe you spent time today talking 3        with us with regard to the various meta-analyses that 4       you've looked at, examined, and assessed; correct? 5           A. That is correct. 6         Q. Okay. Based upon the totality of the 7       meta-analyses that you have reviewed, what is your 8       opinion with regard to whether or not they demonstrate 9       that talcum powder products can cause ovarian cancer? 10        A. I think that the meta-analyses show 11       consistent conclusions of a 25 to 30 percent increased 12       risk for ovarian cancer; and that coupled with the 13       other criteria that I considered -- the biological 14       plausibility and the various other Bradford Hill 15       criteria -- that I came to the conclusion that talc is 16       a cause of ovarian cancer. 17         Q. Dr. Moorman, is it fair to say that the 18       method -- method of review and your methodology and 19       the analysis that you performed, for purposes of the 20       preparation of your report and the opinions that you 21       shared today, is the type of methodology and the type 22       of process that is generally accepted in your 23       scientific community of epidemiologists? 24           MS. FOSTER: Objection to form. 25           THE WITNESS: I think that the methods</p>

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<p>1 that I used are what I do routinely in my work as an 2 epidemiologist and that is routinely done when we 3 conduct systematic reviews. 4 BY MS. PARFITT: 5 Q. You were questioned numerous times today with 6 regard to the IARC review of talcum powder products 7 and ovarian cancer. Do you recall those discussions? 8 A. Yes, I do. 9 Q. The IARC committee put out a monograph in 10 2010. Is that your understanding? 11 A. That is my understanding, yes. 12 Q. Do you have any knowledge as to when the IARC 13 committee met to make their findings as it pertained 14 to the role of talcum powder products in ovarian 15 cancer? 16 A. I don't recall the exact date, but I believe 17 that it was quite a bit earlier than that. I'm not 18 sure of the exact date. 19 Q. Okay. But it preceded the monograph that 20 came out in 2010? 21 A. Yes. 22 MS. PARFITT: Dr. Moorman, I have no 23 further questions. Thank you very much. I appreciate 24 it. A long day. 25 MR. JAMES: Dr. Moorman, just a handful</p>	<p>1 A. The most pronounced difference that we are 2 aware of is that smoking seems to be more strongly 3 associated with mucinous ovarian cancer than with 4 other subtypes. 5 But in most -- for most other risk factors, 6 there -- the risk factors seem to be pretty consistent 7 across the subtypes. 8 Q. Are you aware that many clinicians consider 9 the various subtypes of ovarian cancer to be different 10 diseases? 11 MS. PARFITT: Objection. Form. 12 THE WITNESS: I think that clinicians 13 recognize that they -- there are differences. Again, 14 going to pathologists, they can distinguish between 15 them. 16 But in terms of how they treat them, it's 17 my -- I'm not aware of any real difference in how they 18 would treat the different subtypes of ovarian cancer. 19 BY MR. JAMES: 20 Q. And other than smoking, which is the factor 21 that you just mentioned, can you think of any other 22 risk factors that have a different impact on a 23 specific subtype of ovarian cancer as opposed to 24 another subtype? 25 A. That is the only one that comes to mind.</p>
<p>1 more questions. Okay? 2 THE VIDEOGRAPHER: Mr. James. 3 MR. JAMES: Oh, of course. 4 Can we go off just for one second? 5 How long did Ms. Parfitt go? 6 THE VIDEOGRAPHER: Going off record at 7 6:22 p.m. 8 (Discussion off the record.) 9 THE VIDEOGRAPHER: Back on record at 10 6:23 p.m. 11 FURTHER EXAMINATION BY COUNSEL FOR THE 12 JOHNSON &amp; JOHNSON DEFENDANTS 13 BY MR. JAMES: 14 Q. Dr. Moorman, since the IARC published its 15 monograph in 2010, we have had the publication of 16 additional cohort data on the talc ovarian cancer 17 association; correct? 18 A. Correct. 19 Q. With regard to the subtypes issue, do you 20 believe that different subtypes of ovarian cancer have 21 different risk profiles? 22 MS. PARFITT: Objection. Form. 23 You can answer. 24 BY MR. JAMES: 25 Q. And I'm talking about in general.</p>	<p>1 MR. JAMES: That's all I have. Thank 2 you again for your time. 3 THE WITNESS: Okay. 4 MS. PARFITT: Thank you. 5 THE VIDEOGRAPHER: This concludes the 6 deposition of Dr. Patricia Moorman. The time going 7 off record is 6:25 p.m. 8 (Whereupon, at 6:25 p.m., the deposition ceased. 9 Signature was reserved.) 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>

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